Transforming Domestic Architecture:

A Spatio-temporal Analysis of Urban Dwellings in Bali

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Dedicated to my folks, Balinese
from whom my best inspirations came…

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A b s t r a c t

Cultural transition is a significant phenomenon in urban dwellings in Denpasar, the capital of Bali. House values, functions, meanings, and spatial configurations are changing in parallel with the process of socio-cultural transition. Through time traditional space configurations no longer fit with the new values and lifestyles. Meanwhile, cultural transition has also occurred in low-cost housing. Many occupants are dissatisfied because traditional values of the local society are perceived as relatively unimportant by the developers. As well as cultural transition, these occupants also have to cope with physical, spatial, and social issues. Therefore, the urban Balinese who live in these houses tend to continually adapt their dwellings to meet their current situation.

In a study in 2003, Sueca used quantitative and qualitative methods to analyse the characteristics of the occupants in urban dwellings. These included socio-economic issues, education, demographic factors and occupation, in order to see how they contribute to the housing transformation phenomenon. Thus, comparisons of these characteristics were used to discover contributory factors, motives of transformation, and the processes and effects of this phenomenon. The conclusions of his research were made available for further work and to serve as a starting point for this current study. Over ten years later, a valuable study of this phenomenon can be accomplished to identify and investigate change through time. Systematically revisiting the dwellings and households of the previous study is a way of understanding this phenomenon, through a detailed analysis of documents, household interviews and spatial surveys. Covering over ten years, this allows a focus on the socio-cultural changes over time and produces information and evidence about this phenomenon and how the dynamics of the socio-cultural life of the occupants order and articulate the process of housing transformation.

It is necessary to identify and differentiate between the core elements and the peripheral elements of the socio-cultural lives of the occupants, which can disappear or be replaced by new, highly valued elements. In terms of data, previously accumulated information was integrated with more recently collected fieldwork data in 2011. In this sense, the approach emphasises the need for a time series perspective of home environments and the importance of historical data for theory development in Environmental-Behaviour Studies.

This study ultimately provides an understanding of the interconnection between occupants and urban dwellings in the process of housing transformation from a spatio-temporal perspective. Dialectic processes describe an essential dynamism in the process of becoming at home in the socio-cultural lives of this specific group. The study also explores the importance of the socio-cultural lives of urban dwellers in helping to define the nature of the Balinese, in terms of their lifestyles, values, preferences, and the nature of *good* or *better* settings for them. Finally, it aims to contribute to supportive housing design and policies in Indonesia.

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Glossary

Adat	customary law.
Aling-aling	a part of the main entrance that serves as a diversion, so that the driveway into the entrance is not straight, but sideways. As a result, the view from outside is not directly into the house. This wall is philosophically believed to be a barrier to protect a family from the negative atmosphere outside.
Angkul-angkul	a main gate of the traditional Balinese house. In the past, the dimension of this gate was based upon a part of the body of the owner, in particular the father as head of the family. However, today it is built in order to accommodate the size of a car or motorcycle that is owned by this family.
Atman	the soul.
Bade	a traditional coffin into which a dead body is placed and brought from the funeral home to the cemetery.
Bale-bale	a platform made from wood or bamboo for sitting or sleeping.
Bale banjar	the hamlet assembly hall in *banjar,* where the profane and communal life are discussed and conducted.
Bale dauh	an enclosed pavilion which is a profane space domain where parents can sleep; it is positioned in the West part of the house yard.
Bale daja	an enclosed pavilion, a sacred space in regards to the original function as storage for valuable family belongings (or *gedong simpen*); it is positioned in the North part of *Madya*, whereas in other parts of Bali, this *bale* traditionally functions as a sleeping area for daughters or area for giving birth, or it is known as *bale meten*.
Bale delod	*Bale Bali*, *bale adat, or bale sumanggen* is an open pavilion in the South of the house yard. Its function is as a place to prepare offerings prior to traditional occasional celebrations or ritual processions. In *pawiwahan* and *metatah,* this pavilion is a place for *pedanda*. However, this building is also a place for a dead body before burial or cremation that is conducted in a cemetery. At night, this pavilion is a sleeping area for sons.
Bale gong	an open pavilion, a place for performances and practice of playing traditional musical instruments.
Bale dangin	an open pavilion in the East of the house yard. This pavilion is used for a working area or for preparing family ritual procession (days), and as a sleeping area for sons at night.

Bale kulkul	a drum tower, a means of communication in traditional Bali by which some public messages were transmitted (e.g. messages of public gatherings, fire hazards and floods).
Bale lantang	an open, extended, multi-functional pavilion for activities such as practising traditional dancing, a children's playground, or social interactions.
Banjar	a neighbourhood association which occupies the lowest place in the hierarchy of the Balinese customary group within one area. This social group is headed by a *kelihan banjar*.
Banjar Tengah	a traditional Balinese village in inner city Denpasar.
Barong ngelawang	*a* traditional parade that is performed in a series of *Galungan* festivities and is used to ask God to keep the villagers wealthy, as well as safe from the plague and other negative elements. This parade is usually done roving through the village or villages. At the front door of every residence, the dancers stop and dance *barong ngelawang*.
Bebaturan	some of the bottom parts of a building, such as the floor, steps from the ground to the building, and the foundations of the building.
Bhur Loka	the lower world.
Bwah Loka	the middle or people world.
Canang sari	daily offerings made from coconut leaves as a container and arrangements of colourful flowers and pandanus leaves, a small amount of rice, and incense.
Desa adat	customary village.
Dewa Brahma	the Hindu god *(deva)* of creation and one of the *Trimūrti*, the others being Vishnu and Shiva. He is often referred to as the progenitor or great grandsire of all human beings.
Dewi Sri	the rice goddess.
Dewa Siwa	one of the primary forms of God. He is the Supreme God within Shaivism, one of the three most influential denominations in contemporary Hinduism and "the Destroyer" or "the Transformer" among the Trimurti, the Hindu Trinity of the primary aspects of the divine.
Dharma Sewaka	The motto of Denpasar that has the meaning: *serving is duty.*
Galungan	the greatest celebratory festival of Balinese Hinduism to appreciate the victory of *Dharma* (goodness) against *Adharma* (badness).
Gebogan	large offerings of fruit that women carry to the temple in Bali.
Gender	a type of traditional instrument in Balinese music. It consists of 10 to 14 tuned metal bars suspended over a tuned resonator of bamboo or metal, which are tapped with a mallet made of wooden disks.

House of origin	a traditional Balinese compound, which is indicated by the existence of *kamulan* in *sanggah*. The Balinese believe that this house a sacred space where God and the ancestors reside together with the people, and as the centre of a ritual site.
Ibu	Madam or mistress, or "*Bu"* for daily conversation.
Ida Sang Hyang Widhi Wasa	God or the Creator.
Istri	wife.
Jalan Raya Sesetan	a main road which has higher commercial value than other roads in Banjar Tengah, Kelurahan Sesetan.
Kaja	North direction.
Kangin	East direction.
Kaja-kangin	North-east direction. Balinese believe this direction is the most sacred orientation concerning two cardinal directions of the universe: 1) sunrise-sunset; and 2) the position of Mount Agung in the middle of Bali as the top level and the seaside as the lowest level.
Kaja-kelod	'the mountainward-seaward' axis, which connotes the sacred-profane dichotomy with the mountainward direction, where the demons dwell, being the profane. For most Balinese towns, this axis coincides with the north-south axis.
Kandang	cattle sheds that are placed in *teba* and which are commonly used for pigs, cows, or buffaloes.
Kangin-kauh	'the sunrise-sunset' axis, which represents the birth-death dichotomy, where the sunrise direction is a symbol of birth, hence preferable, and the sunset direction is the symbol of death.
Kamar suci	an enclosed space which is used for the daily prayers of one family to speak to God and the ancestors. This sacred room is completed by an altar and a small space for sitting with crossed-legs.
Kampung	is generally defined as the hometown where the Balinese were born. Otherwise, it is the village from which one originates.
Kangin	East direction.
Kauh	West direction.
Kelod	South direction.
Kelihan banjar	a customary leader of the *banjar.*
Kelurahan Sesetan	an urban village, formally in Sesetan, South Denpasar.
Kemulan	a shrine which consists of three ancestral spaces and philosophically has the meaning of unity and togetherness, so a family can live in harmony and believe in the presence of ancestral spirits as a part of family life.
Kendang	a two-headed drum of the primary percussive instruments in traditional ensemble music.
Keraton	the royal palace.

Kuningan	the end of *Galungan* festival, celebrated over two weeks. Both festivities have an atmosphere of the celebratory spiritual journey of Balinese Hindus in both microcosms (souls and minds of humans) and macrocosms (the universe).
Lebuh	a transition area around the main gate of the house.
Leluhur	the ancestors.
Lumbung	a granary, a traditional pavilion that stores agricultural products after cropping the fields, such as paddy, cassava, coconut, or sticky paddy upstairs. However, this pavilion also has a platform that is utilised for daily social interactions.
Madya	Regarding the hierarchy of space in traditional Balinese spatial arrangement, *Madya* is the semi profane area of the house, the neutral or middle space that is used for habitable units.
Makan malam	dinner or supper.
Makan siang	lunch.
Megibung	a tradition of eating together that follows one set of customary rules. A group of four, or maximum eight people, sitting with crossed-legs around the food served. They have to start eating at the same time and finish simultaneously. This tradition is only observed at traditional formal events, so it is a category of local tradition which symbolises togetherness.
Melaspas	a series of rituals for house construction that is used for house purification from negative cosmic energy.
Menyama braya	the equality, solidarity, and social recognition that all people are comrades, so attitudes and behaviour should be together in joy and sorrow.
Memukur	the next process in the funeral ceremony after *ngaben*, which is a purification ceremony for the soul *(Atma)* to be the Holy Spirit.
Metanding	preparation of offerings which is commonly done, either daily or occasionally, before praying. This activity includes assembling flowers and fruits in *sesajen*, *canang sari*, and *gebogan*.
Metatah	a ritual procession for sons and daughters to indicate that they are teenagers. Some parts of Bali call this procession *mesangih* or *mepandes.*
Natah	an inner courtyard of the house which is believed to be an intersection between *Bhur Loka* (nirvana) and *Swah Loka* (the universe), and which represents a centre of balanced cosmology between *Bhuana Alit* or microcosm (the human body) and *Bhuana Agung* or macrocosm (the universe).
Ngaben	a traditional death ceremony of the Balinese that is conducted by burning the dead body in and scattering the ashes into the sea or river.
Niskala	the metaphysical world.

Nista	in the hierarchy of space in a traditional Balinese spatial arrangement, *Nista* is the most profane area of the Balinese house for dirty places, such as family garden, toilet, cattle sheds and storage.
Nitisastra	the old manuscript which explains the ethics and practices of Hindus, including how to praise God and the ancestors.
Odalan	the memorial day of the birth of a temple.
Odalan sanggah	the memorial day of the birth of family shrines.
Orti	the kinds of offerings for house construction rituals.
Otonan	a birthday that is celebrated every six months in accordance with the Balinese calendar.
Padmasana	a shrine in *sanggah* which functions as a palace of God.
Padmasari	a small type of *padmasana.*
Pak	mister.
Palemahan	see *Tri Hita Karana.*
Paon	*pawon,* or Balinese kitchen, which is positioned in the south of the house yard. This compound is believed to be a sacred space because the family prepare the food for sustaining life in this space.
Panca Maha Bhuta	five basic elements: *pertiwi* (earth or solid substance), *apah* (water or fluid substance), *bayu* (air), *teja* (fire, light or heat), and *akasa* (space or ether).
Parahyangan	see *Tri Hita Karana.*
Parama Atman	see *Ida Sang Hyang Widhi Wasa.*
Patung Catur Muka	the ground zero of Denpasar, which is indicated by a big statue that has four faces which are oriented in each direction: north, east, south, and west.
Pawiwahan	a traditional Balinese wedding.
Pawongan	see *Tri Hita Karana.*
Pedanda	a priest or a Hindu spiritual leader who leads ritual processions. Some also call them *pendeta*.
Pelangkiran	a sacred shelf which is used instead of the *sanggah* and is mostly found in low-cost housing. This sacred shelf is put on the wall of one room with consideration to privacy, such as a master bedroom or leisure room. However, some also place this self in the spaces that are assumed have spirits for sustaining the living, like the kitchen or dining room.
Pelinggih	a shrine which has the specific function of worship. The occupants continuously make offerings in either daily prayers or occasional ceremonies.
Pemangku	the clergy of Balinese Hinduism.
Pendopo	a Javanese pavilion that has a special throne, which is also intended for reception of the rice goddess *Dewi Sri.*

Penunggun karang	a shrine in the yard that is believed to be a palace of the Security God who can give virtual protection to the family from negative spirits.
Perana	the energy of the human body.
Purwabumi	the old manuscript which contains the mythological doctrines of the creation of the universe.
Rahinan	a festival, ritual ceremony.
Ruang keluarga	a leisure room, a domestic space that accommodates family interactions, but can occasionally be used by the occupants to receive informal visitors.
Ruang makan	a dining room, a room for having family mealtimes.
Ruang tamu	a living room or lounge, a space for entertaining guests or visitors or for social interactions. It is usually plotted in the front of the house layout.
Rwa Bhinneda	a state where two different entities occur at the same time and interplay as a system, such as the divine and the evil, good and bad, sky and earth, mountain and sea, positive and negative, sacred and profane, constructive and destructive, male and female.
Sanga Mandala	a 3x3 space composition, which literally means 'nine-fold hierarchical space'. The hierarchy fits into the sacred-profane continuum, which is from the *utamaning utama mandala* or the most sacred section (first hierarchy) to *utamaning madya mandala* or the second most scared section (second hierarchy), to the last or ninth hierarchy, *nistaning nista mandala* (the most profane section).
Sanggah	family shrines which have the most sacred and the highest hierarchy of space in the house yard. They consist of several shrines of worship. Each shrine has a different function to praise God and the ancestors.
Sanggah Gede	a complete *sanggah* which has all shrines with different purposes of worship. This family temple is found in traditional housing.
Sanggah Alit	a little *sanggah* which consists of at least two shrines of worship: *padmasana* and *penunggun karang*. This kind of temple is ordinarily built by urban migrants in their houses and is believed to help them to find inner connections of spiritual dimensions to their *house of origin* in *kampung*.
Sarapan pagi	breakfast.
Sarira	the human body.
Sekeha	a voluntary work group.
Sekeha gong	a voluntary group of traditional Balinese music instruments
Sekala	the sphere of the physical world.

Sesajen	or *banten,* literally, an offering of the crops that have been processed by people, such as vegetables, fruits, and other food sources, out of gratitude to God for life. It is aimed at reminding people that the universe belongs to the Creator.
Setra	a cemetery.
Siwagama	the old manuscript which explains the main beliefs of Hindus. It highlights that Hindus believe in God and the ancestors. People are advised to respect the ancestors because they are philosophically created and come from God.
Swah Loka	the upper or sacred world.
Teba	a rear garden which is commonly used for stalls for pigs, cows, or buffaloes. Apart from planting, it is also used as a dirty place for a toilet and domestic rubbish. According to the Balinese hierarchy of space, this garden is the most profane space in the house yard.
Tri Angga	a cosmos-religious concept that is inspired by *Tri Hita Karana* and which qualitatively structures a space into *Utama* (sacred or upper space), *Madya* (neutral or middle space), and *Nista* (profane, lower space). In addition, *Tri Angga* is also implemented into the building: *utama angga* (roof), *madhyana angga* (rooms, walls), and *kanista angga* (floor, sub structure).
Tri Hita Karana	a philosophy of the Balinese Hindus which emphasises three harmonic relationships between people and God *(parahyangan),* people and people *(pawongan),* and people and the universe *(palemahan).* This harmony is the source of peaceful hearts and minds for humans.
Tri Masa	the dictum of 'past-present-future'.
Tri Pramana	the dictum of 'place-time-situation'.
Tungku	a traditional stove which is made from clay and is lit by matches and wood.
Ubud	a town which is administratively included in the Gianyar Regency.
Undagi	a local architect who understands the rules of traditional Balinese architecture, including building structures and construction, art, culture and tradition, and belief systems and religion. This understanding is necessary to realise the expected designs and built environments in harmony with the *Tri Hita Karana* concept.
Utama	In traditional Balinese spatial arrangements, *Utama* is the most sacred area of the house for family shrines.
Warung	a small shop which provides daily commodities sold by a grocer, such as snacks, instant food, soft drinks, toothpaste and brush, bath soap, hair accessories, and so on.

Chapter 1

Housing Transformation: A Continuing Phenomenon

Chapter 1. Housing Transformation: A Continuing Phenomenon

The phenomenon of home... used to be an overwhelming and in exchangeable something to which we were subordinate and from which our way of life was oriented and directed... Home nowadays is a distorted and prevented phenomenon. It is identical to a house; it can be anywhere. It is subordinate to us, easily measureable in numbers of money value. It can be exchanged like a pair of shoes.

(V. Vycinas, Earth and Gods, 1969, p. 84-85)

Housing Transformation: A Continuing Phenomenon

A Preliminary Discourse

A series of housing transformation studies has been developed by many relevant experts and researchers, particularly in Asia, Africa, and South America (Tipple, 2000). In Indonesia, studies in the field of housing mainly focus on the provision and delivery of housing, policies and issues of modernisation, particularly issues of adequate housing for low-income groups. In that respect, issues of modernisation are predominantly focused on house appearance, the typo-morphology of the house, and other topics that relate to the development and improvement of settlements for both public housing and traditional dwellings. However, there is a limited amount of research that explores how socio-cultural transitions are affected in parallel with the process of housing transformation, and which trace the decision-making processes involved in how housing is reorganised in order to support housing design.

The aim of this study derives from the above perspective. It is intended to provide an in-depth analysis of the reordering of urban dwellings from a spatio-temporal perspective across a specified time frame. In this case, the intention of the study is to bridge the gap between housing satisfaction and housing design. Accordingly, the socio-cultural lives of the Balinese in urban dwellings are an appropriate case study for understanding the broader issues of other ethnic groups in Indonesia.

This introductory chapter is structured in two parts: the argument of the study and its structure. The first part presents the relevant emerging issues which reveal why this topic is significant for thorough exploration. This begins by examining how globalisation has led to a crisis of identity which needs to be reconstructed. The acceleration of globalisation, particularly of electronic telecommunications, has simultaneously created many opportunities and problems. Then, the next issue in this part relates to the importance of local tradition and transformation, wherein both can be analogous sides of the same coin. On one side is the

preservation of traditional values that is practiced within the socio-cultural lives of the occupants is essential. However, the other side is housing transformation, an inevitable phenomenon whereby the house grows continually in parallel with the occupants' needs. In addition, why and how housing transformation has become an urban issue in Denpasar is described. The final discussion in this part centres around the basic arguments for revisit a study by Sueca (2003). In 2001, he investigated 166 households in Denpasar and focused on the characteristics of the urban Balinese in terms of housing consumption and its transformation. The first part ends with an explanation of the research questions and objectives. The second part addresses the structure of the study, including a short description of urban dwellings in Denpasar as a setting for this study, the general methodological approach that links to the baseline of the study, and the organisation of the thesis. Principally, this introductory chapter chronologically clarifies how this study is built and structured on an analytical basis.

1.1 The Argument of the Study

1.1.1 Globalisation: Opportunities and Problems

Modern transportation systems currently allow people and goods to link different parts of the world within days, while telecommunication and internet systems enable people to send information around the world in minutes, or even seconds. These encourage capital investment, people, and ideas to move around and cover the world more rapidly; thus, economic exchange has become more global and transnational.

Many scholars have attempted to define the word *globalisation* from different perspectives and disciplines. Giddens (1990:64) defines this term as *"the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa."* Featherstone (1995:6-7) defines globalisation using two images of culture. The first image covers the spread of marginalised cultures across the globe. Heterogeneous cultures thus develop into a global culture that is incorporated, integrated, and dominant. The second image entails the compression of cultures. The features of many cultures in the world are now brought into contact and close proximity. Meanwhile, Al-Rodhan (2006:5) then states *"globalisation is a process that encompasses the causes, course, and consequences of transnational and transcultural integration of human and non-human activities."* This process is a flowing evolution of social development that is continually changing - the massive flow of people, goods, information, ideas and capital across the globe.

From the above insight, it can be understood that the process of globalisation enables the spread of cultural symbols from one place to many parts of the world, particularly in the domain of economics and international trading. Many products can be bought in the same companies all over the world, whereas the prices of these products, such as franchise food, telecommunication features, vehicles etc., can be forced by the world market. Cultures are also simultaneously changing in a similar order. People tend to be first more commercial, then urban, and finally international. Travelling to and working in other countries, then coming back periodically to their original homes and reinforces the importance of kinship. Democracy, human rights, alternative medical practices and religions are ideas that have also become more

widespread. In brief, people are increasingly willing to share behaviours and beliefs with other cultures; hence, the many cultures of the world are overcoming boundaries.

Figure 1.1 The process of globalisation obviously occurs in Bali (clockwise from the top)

(1) The transportation system offers people the opportunity to travel to other countries. Kuta Beach is the most popular destination on the island for international travellers.

(2) The process of globalisation enables the spread of cultural features, such as clothing style.

(3) The lifestyle of the Balinese is increasingly urban and international.

(Source: ABC News, 2012)

Exploration and expansion of Western societies in the fifteenth century is believed to be the starting point of the globalisation process. In the last few decades, globalisation has increased significantly and even covered remote places in the world. The features of modern culture have been externally induced and have gradually changed the culture of ethnic groups. Nonetheless, according to anthropologists and other frequently studied social scientists, the process of globalisation is not only introduced by Western societies, but also by those of the Far East, such as Japan, Korea and China. Moreover, the expansion of Islamic societies has also stimulated widespread cultural change in the Near East, Africa, Europe, and Asia. Therefore, globalisation is a more widespread version of what has been previously termed diffusion, acculturation, colonialism, imperialism, or commercialisation, though the implications of modern globalisation are on a much grander scale.

This global phenomenon has obviously created opportunities for people to live with no 'edges' on the Earth's surface. However, there are also negative consequences. Global travel has resulted in the quick spread of diseases, such as HIV and severe acute respiratory syndrome (SARS), and increasing deforestation has led to a spread of malaria. Additionally, according to Featherstone (1995), the global culture has gradually been assimilated into some local traditions. As a result, cultural transition inevitably occurs and tends to marginalise the existence of ethnic groups and their traditions. This phenomenon is apparent in many places of the world that are popular destinations for travellers, including Bali. For better or worse, the world is interconnected and will remain so. The question now is whether local traditions will eventually survive the process of globalisation through transnational and transcultural integration.

1.1.2 Local Tradition and Transformation: Two Sides of the Same Coin

A house is more than a physical space in which people live; it is also a space where social interactions and rituals take place. A house is laid out in terms of how it is to be used. Several sociological and historical studies of housing have claimed that the layout of a house expresses underlying cultural values and norms, and choices for use of space (Ozaki, 2002; Clark, 1973; Rapoport, 1969). *Culture* here means a relatively organised system of shared meanings (Geertz, 1973). Obviously, such shared meanings of national groups are heterogeneous, with many sub-groups, for instance gender, class, and different social settings (Despres, 1991).

Accommodating the basic requirements of life, such as sleeping, preparing food, eating, and other domestic activities, people – either as individuals, or a family, group, or clan with their dependents, both human and animal – require a place to live. They then need a roof and set boundaries in order to protect their home life from the natural elements, such as weather, wild animals, etc. This shelter is a product of *domestic architecture*, which creates boundaries for the use of space. The boundaries depend upon culture and time periods within which the process of creating boundaries occurs. Culture connects the use of space and domestic architecture. Meanwhile, the relationship between domestic architecture and the occupants is a dynamic process which evolves in parallel with their needs over time (Oswald, 1987).

Rapoport (in Kent, 1990:10) identified that the nature of the relationship between culture and the domestic built environment, in this case the house, tends to implicitly assume that both are equivalent units. In other words, they are equal in *scale*. However, culture is essentially a vast domain, whereas the house is a small part of and a subset of culture. Additionally, the complex interaction between occupants and their dwelling specifically raises questions the role of culture in this interaction, such as: What is the nature of the interaction between the two? How is this interaction articulated in specific aspects of culture? Therefore, analysis of the complexity of this interaction within culture is required.

Cultural transition impacts upon housing systems. Indeed, housing physically changes in accordance with the cultural processes that take place in society. Functions of cultural processes include types of formal and informal housing, urbanisation and migration, lifestyles, selection of housing equipment and behaviour. In this context, a new style of occupant behaviour is established that occurs upon the meeting of rural and urban cultures in urban areas, which seems to be an important example of cultural transformation. The effect of this

new behaviour on the lifestyles of ethnic groups cannot be determined during the cultural transition of a society.

Cultural transition which occur through cultural processes also influence house layouts and the use of space. In some societies, the layout and organisation of spaces in the house has changed because of the level of sacredness. A good example of this process can be seen in low-cost housing and traditional dwellings in Denpasar, Bali. That is to say, there are interactions between cultural processes and physical changes over time. The house is frequently arranged by the dweller(s) in parallel with their socio-cultural life and its impact upon the process of transformation.

Global culture and development, as the gateway to modernisation, also emerge in local cultures throughout the world through economic and political domination. These phenomena evoke questions about life and the continuity of local traditions against either development or globalisation, such as how does development, urbanisation and globalisation influence the socio-cultural lives of local people? How do these people face, select, adapt, adopt or reject the *new* elements? Will local traditions continue? These questions have arisen in local societies within Bali for decades. After the *boom* in the tourism industry in the 1980s, Bali has been continually confronted by the above phenomena, either preserving local tradition on the one side or transforming and changing aspects of life on the other.

1.1.3 Housing Transformation: An Urban Issue

For several years, Indonesia has been undergoing a rapid process of population growth and urbanisation. In particular, most metropolitan areas have experienced continuous population growth because of economically motivated migration from rural regions to these metropolitan areas. Such urbanisation, which is increasing rapidly, generates a greater demand for shelter, mainly for poor families who cannot afford to pay for adequate housing. They have no choice; generally, they live in slums and squatter communities that offer inadequate shelter and which do not have water and sanitation facilities or basic health and educational services. Thus, over the last three decades, the government has established housing policies to provide adequate houses. The concept of low-cost housing enables low-income groups to access decent housing.

Bali Province in Central Indonesia continues to be an important tourism destination, both internationally and nationally, with significant historical and socio-cultural resources. Developments in multiple sectors also encourage the growth of urban activities in Denpasar, the capital city of this province.

The centralisation of urban activities in Denpasar has greatly increased migration, particularly from rural to urban areas. This city has the highest population in the province, at 39.86 per cent of the total provincial population yet it covers only 2.20 per cent of the province's area (BPS Bali, 2012). As a result, this city experiences a problem with housing supply. Unreasonable land costs affect the chances for eligible people, mainly those in low-income groups, to obtain housing (Salain, 2002). For the last two decades, the housing demand in this city has been addressed by the private sector, while the local government has facilitated funding through soft loans for consumers. For middle and low-income groups, private

developers provide various types of housing from 21m^2 to 70m^2 in area, with a land area of 60-200m^2. Nevertheless, during the last twenty years, 36m^2 and 45m^2 were the more usual house sizes for low-income groups.

As well as the housing supply, the next issue that occurred in low-cost housing in Denpasar was that of housing transformation. This housing was inadequate in terms of size, materials and construction; as a result, numerous urban inhabitants changed their houses in order to enhance the quality. Factors associated with urban modern society mean that the house cannot accommodate the increasing demands of life. Moreover, there is a failure to provide housing that considers the inhabitant's cultural setting and needs. It can be said that this is the main reason inhabitants modify houses designed by either the government or private developers. Simultaneously, just as low-income groups did, the urban Balinese who live in traditional dwellings have also transformed their houses. This transformation has been triggered by external factors such as modernisation and tourism development, which have caused socio-cultural change. The Balinese transform their houses in order to cope with the urban context and problems which are developing rapidly. In this case, housing transformation is a reflection of changing socio-cultural processes.

In brief, housing transformation in Denpasar does not only occur in low-cost housing, but also in traditional dwellings. This phenomenon is a real-life, complex contextual issue and takes place as a result of the increasingly dynamic processes of the inhabitants' lives (Sueca, 2003:9). Tipple (1991:2-3) also explains that, the housing transformation process is started by inhabitants with minimal existing space, who then extend their houses with a view to increasing their income, needs, aspirations, household structure, etc. This study will explore this phenomenon and its interactions. Many transformations are not simply the addition of more space, but, in many cases, are also the adjustments of features.

Cultural transition that has been affected by globalisation and modernisation is a significant phenomenon in traditional areas of Denpasar. These factors have influenced almost all aspects of the occupants' lives, such as social systems, values, norms, better living standards, life expectancy, wealth, cultural changes, and changing dwelling patterns. House values, functions, meanings, and spatial configurations are all changing in parallel with the processes of socio-cultural transition. Traditional space configurations no longer fit with the new values and life styles in urban areas (Sueca, 2003:7).

Cultural transitions also occur in the low-cost housing which has been built by both government and private developers for low-income groups. Murni (2009:253) notes that consumers of these houses were dissatisfied, and the traditional cultural values of the local society were perceived as a less important factor by developers. These housing settlements created a high demand which justified mass-produced housing which, very often, ignored traditional cultural values. It is not only an issue of cultural transition, however; there are also factors of physical, spatial, and social problems. Therefore, the urban Balinese who live in these houses tend to adapt their homes in a self-motivated process to meet their current situations.

It can be said that cultural transition and ignorance of traditional cultural values have driven the emergence of housing transformation in urban dwellings. These phenomena bring to mind

several questions. Is housing transformation a reflection of changing socio-cultural processes? How do the Balinese cope with urban problems in order to transform their housing? How do urban inhabitants change their houses in order to enhance housing quality? These questions need to be answered.

1.1.4 Rationale: Why Revisit?

Benedict (in Dovey, 1985:38) states that cultural beliefs and social practices represent the ordering system and shape house formation within any socio-cultural context. The particular patterns and rituals of environmental experience and behaviour are largely socio-cultural phenomena. The phenomenon of housing comes to be embodied in an ordered structure that is at once spatial, temporal, and socio-cultural (Dovey, 1985). Then, housing and its close environment physically change in accordance with the cultural processes that are taking place in the related society (Hacihasanoglu and Hacihasanoglu, 2006:902). The cultural changes of housing cover the interactions of cultural processes with elements of the housing environment, and cultural processes have cultural effects upon the metamorphosis of houses.

With reference to Rapoport's views (in Kent, 1990:11; Rapoport, 1969:46), architecture is a reflection of behaviour or the use of space; in other words, it is a reflection of culture. Rapoport also shows how activity settings guide behaviour within a built environment, which includes domestic dwellings. Housing is the consequence of a whole range of socio-cultural factors. The house and household life are ordered by customs and habits. Domestic space is appropriated by the resident, and can be interpreted as a system of customs that are generated by past residential experience (Lawrence, 1987; Pratt, 1981).

Moreover, Guvenc (1990:291-300) states that the socio-cultural transitions of the occupants of the house are now seen as a continuum ranging from change to continuity. Change and continuity are not contradictory, but rather complementary aspects of the same process. In other words, change itself is an inevitable process within any social system. Interactions between two cultures inevitably results in a synthesis, the product of an adaptation within the dialectic process between change and continuity. Sustaining the old respected cultural aspects and adopting more valuable new elements is essential for change and continuity as this aids the creation of supportive housing design which incorporates both aspects.

The above insights inspire curiosity. While it is likely a common phenomenon of big cities in the Global South, the socio-cultural transition of the occupants is also a significant phenomenon in urban dwellings in Denpasar. This transition works in parallel with the process of housing transformation. Tracing housing changes and reordering the transformed house are necessary to support housing design. This is particularly important because the problems are acute and in urgent need of better solutions. However, the importance of such design is not only intrinsic, but also extrinsic; it is an entry point into broader issues and an exemplar for housing design generally and how it should be carried out (Rapoport, 1983:251). Furthermore, design is also seen as a responsible attempt to help provide appropriate settings for the Balinese ethnic group of people. Housing satisfaction comes from a problem being understood, analysed, and solved.

Through quantitative and qualitative methods, Sueca (2003) analysed the characteristics of the occupants, such as socio-economic issues, education, demographic factors and job/occupation, in order to answer the question of how they could contribute to the housing transformation phenomenon. Thus, comparisons of these characteristics were conducted in order to discover contributory factors, motives of transformation, and the processes and effects of this phenomenon. This work fundamentally contributes to housing adjustment theory.

The conclusion of his research was made available for further work and to serve as a starting point. Over ten years later, a valuable study of this phenomenon can be accomplished so as to identify and investigate change through time. Systematically revisiting the previous study is a way of understanding this phenomenon. A case study of a time perspective analysis is provided in order to combine the 2001 situation into the analysis through existing documentation and by interviewing respondents about the more recent situation in 2011. Covering over ten years, this allows a focus on the socio-cultural changes over time and produces information and evidence about this phenomenon and how the dynamics of the socio-cultural life of the occupants order and articulate the process of housing transformation. This involves answering questions such as: How do these interactions articulate the specific aspects of the socio-cultural lives of the occupants? What is the nature of this interaction? Which parts of these interactions directly influence urban dwellings and how? How do activity settings guide behaviour through the use of space? A qualitative inquiry has been applied by this study, which allows the integration of past times into the analysis phase by tracing housing changes over ten years and by exploring the socio-cultural lives of the occupants. Indeed, a research gap can be noted. The linkage of Sueca's study (2003) and the current study (2014) is illustrated in Figure 1.2.

It is necessary to identify and differentiate between what are called the core elements and the peripheral elements of the socio-cultural lives of the occupants, which can disappear or be replaced by new, highly valued elements. Intuitively, it seems likely that certain aspects of socio-cultural life will play a more central role; those need to be discovered. Reordering domestic architecture from a spatio-temporal perspective can create a supportive housing design for the Balinese which incorporates both core and peripheral elements.

1.1.5 Questions and Objectives

Investigations from the fieldwork show that all cases studied have changed in spatial structure. It can also be seen that the transformation process of urban dwellings in Bali articulates specific aspects of the socio-cultural lives of the occupants, and that this phenomenon can, eventually, be a process of socio-cultural change. The significance and recognition of houses prompted the need to explore the use of space and how this has changed, especially in terms of physical and functional characteristics. Socio-cultural issues influence transformation processes. Therefore, this thesis argues that the dynamics of the socio-cultural life of the occupants order and articulate the process of housing transformation.

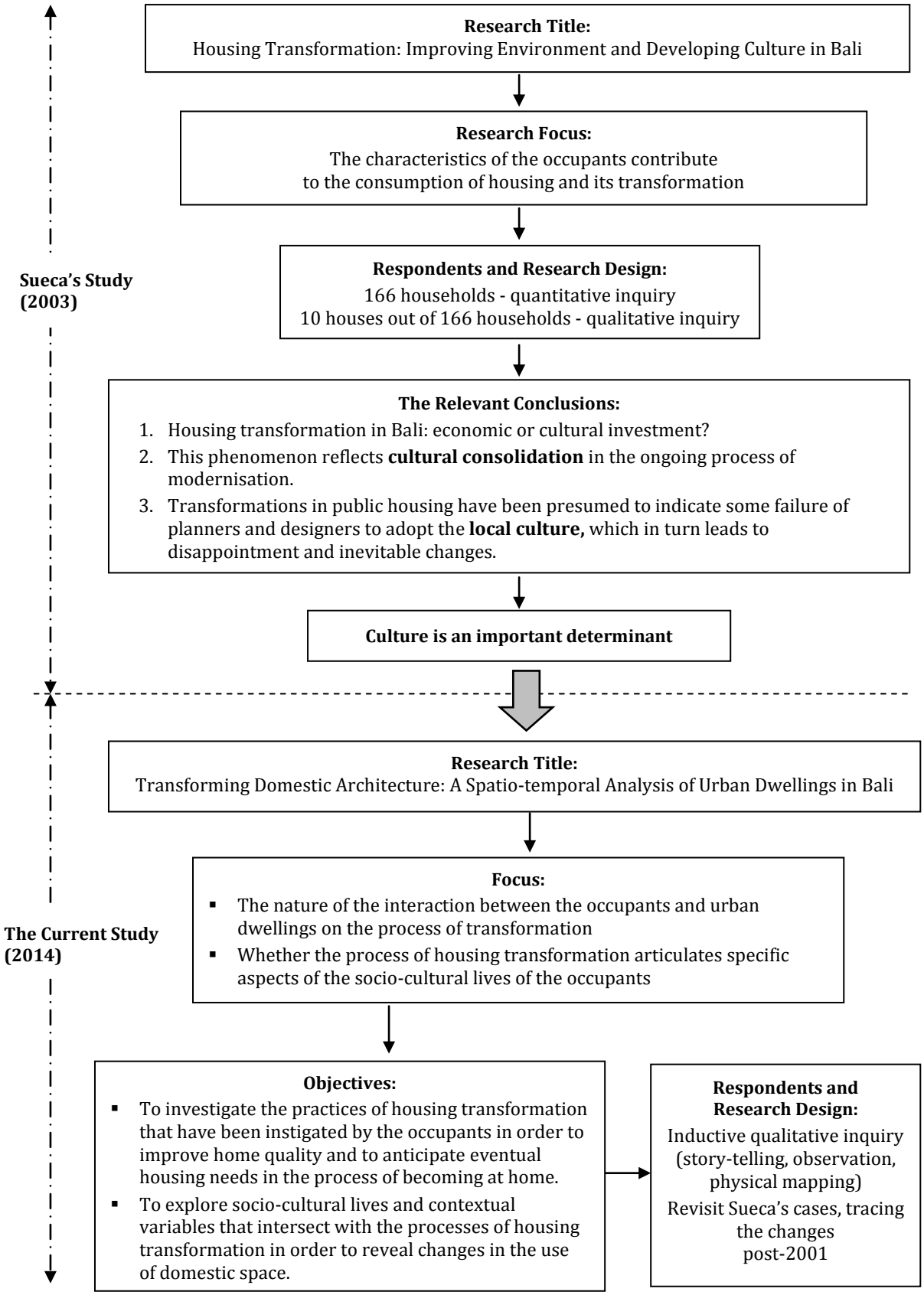

Figure 1.2 The connection of Sueca's study (2003) with the current study (2014)

In light of these issues, this study explores a group of interconnected themes, which emphasise housing improvement through the self-initiated actions of the occupants. These are elaborated in several further questions:

1. What is the nature of the interaction between the occupants and their urban dwellings in the process of transformation?
    a. How do the occupants adjust their housing in order to accommodate spatial demands?
    b. Which are the essential preferences that make a house become a home within a continuing process?
2. How does the process of housing transformation articulate specific aspects of the socio-cultural lives of the occupants?
    a. Which socio-cultural aspects directly influence the domestic space? How do the occupants order these aspects?
    b. Which parts of these are essential to the identity of the Balinese house and to its continuity?

As a result of the above questions, the specific objectives can be formulated as follows:

1. To investigate practices of housing transformation that have been taken place by the occupants in order to improve home quality, and to anticipate eventual housing needs in the process of becoming at home.
2. To explore socio-cultural lives and contextual variables that intersect with the processes of housing transformation in order to reveal changes in the use of domestic space.

These objectives are interconnected. In order to be useful, these objectives must lead to the achievement of a goal and guide the answers to the research questions. An EBS (Environmental-Behavioural Studies) approach must be based on theory, in a logical way and a coherent overall conceptual framework needs to be developed and used. Reordering the future characteristics of the housing design should shape the kinds of setting to be created and how its mechanisms are interlinked and develop the valuable lessons that these characteristics provide for housing design.

This study ultimately provides an understanding of the interconnection between occupants and urban dwellings on the process of housing transformation from a spatio-temporal perspective. Dialectic processes describe an essential dynamism in the process of becoming at home in the socio-cultural lives of the specific group. Being at home is a mode of being that we experience as having emotional meaning (Lawrence, 1995:58). This study explores the importance of the socio-cultural lives of the occupants of urban dwellings in helping to define the nature of the Balinese, in order to describe their lifestyles, values, preferences, and the nature of *good* or *better* settings for them. To go further, what are the implications for supportive housing design and policies in Indonesia?

1.2 The Structure of the Study

1.2.1 Research Setting: Urban Dwellings in Denpasar

This study is an extension of the previous study from 2001, but it has a different focus. The issues and objectives of the current study involve specific cases in a real-life context. Globalisation and modernisation are seen as equivalent to cultural change. The process of this change could impact upon housing systems and all relevant variables. The choice of Denpasar as a case study was guided by several factors. From 1997-1998, the economic crisis and political chaos in Indonesia triggered 'people power' to take back the country from dictatorship, known as the Indonesian Revolution. This historical event has prompted people post-1998, to migrate to Bali, owing to the fact that Bali was considered a better place for living opportunities in comparison to other provinces. It might be presumed that Bali is a more stable and safer area with regard to economic prospects, the political situation, and investments, as well as job opportunities. At this moment, Denpasar is regarded by the national government as one of the new metropolitan areas of Indonesia.

Moreover, Denpasar is located close to the main tourist areas of Bali (Sanur, Kuta, and Nusa Dua). The city has numerous urban activities that greatly increase urbanisation, particularly from rural to urban areas. Thus, this tendency has rapidly increased urban growth in the inner city. Despite the fact that family planning policies have gradually decreased the natural growth of the population, growth rates through migration and urbanisation are still significantly high. Migrants are not only from other Indonesian islands, but also come from other countries for business, work or retirement. This increases economic activities, mainly in urban areas, which motivates a number of immigrants to come and live on the island. Physical development, such as infrastructure and urban facilities, including adequate housing stock, is inevitably required. For that reason, it is clear from the above explanation that the main considerations for choosing this city as a case study are still relevant.

1.2.2 General Methodological Approach

Designing a methodological approach for this study required the consideration of numerous issues. This included designing a methodological approach that questions and reflects upon experiences in the field. That is to say, the research is used to reflect upon the empirical experience. Ideas were discovered along the way via the literature review and reflections. Then, in terms of data, it was decided to integrate appropriate, previously accumulated information with more recently collected fieldwork data. In this sense, the approach emphasises the need for a time series perspective of home environment and the importance of historical data for generalisation and theory development in EBS (Rapoport, 1995; Rapoport, 1985, Rapoport, 1983). Therefore, the methodological approach of this study is necessarily historical in order to create a baseline for the urban dwellings in Denpasar and the socio-cultural lives of the occupants. Then, the changes over a timescale of over ten years were traced in order to investigate practices of housing transformation in terms of how to make a house into a home and to identify and differentiate persisting core elements, disappearing peripheral elements and introduce new elements. The final aim is to discover the changes and dynamics of the situation and to provide clues for future characteristics of housing design that

are associated with those elements. Briefly, the urban dwellings under consideration must not be copied, but lessons need to be derived through an analysis based on models from EBS. This link is shown diagrammatically in Figure 1.3.

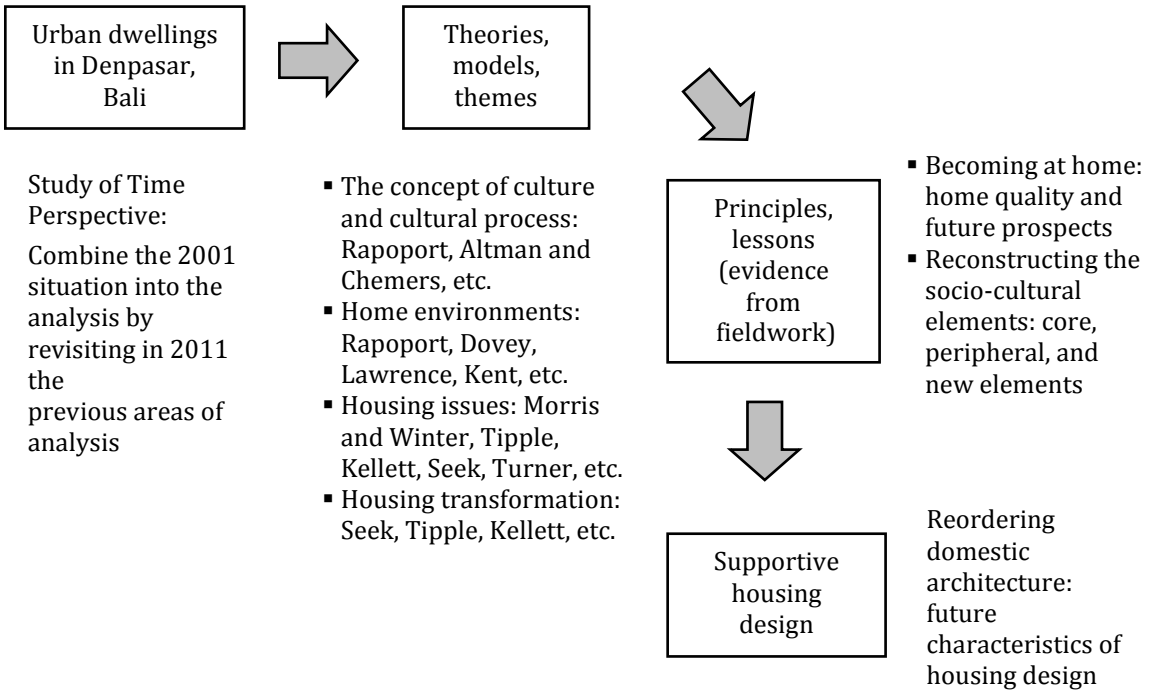

Figure 1.3 Linkage of the study
(Developed from Rapoport, 1983: fig.1, p. 251)

1.2.3 The Organisation of the Thesis

The thesis consists of seven chapters, which are organised from general ideas to specific results and findings in the conventional way, as follows:

Chapter 1. **Housing Transformation: A Continuing Phenomenon** is an introductory chapter in two parts. The first part is an initial picture of the general circumstances of the relevant issues in Denpasar and the structure of the introductory chapter prior to the further discussion. The second part presents problem definitions for why it is important to explore the housing phenomenon in Denpasar; the rationale that motivated the case studies of the previous study in 2001 is revisited; and the research questions and objectives are described. The introductory chapter closes with an explanation of the structure of the study.

Chapter 2. **Housing Phenomenon: Theoretical Perspectives** interprets the relevant perspectives of the nature of housing phenomena on four core issues. The first issue discusses the notion of culture and its transformation in light of the built environment. The second issue relates to the concepts of house, home and dwelling. It includes the experiences of those notions which relate to home behaviour and preferences. The third section discusses housing

as a multidimensional issue. It starts with the question of the house as a process or an end-product, as well as the housing needs and social-cultural issues that contribute to the process of inhabiting a house, in addition to how the family responds to the house behaviourally. The next part encompasses appropriate theoretical reviews of housing transformation that has been driven by the occupants, as well as why and how they transformed the house and their expectations for the future. This chapter ends with the framework of the investigations as a basic concept to reveal the housing transformation phenomenon in the field from a specific spatio-temporal perspective.

Chapter 3. **Methodology and Research Design** describes the research plan for how this study, which consists of four main parts, was approached. This chapter opens with a brief review of the preparatory research plan, including the research gap between the previous research and the current study, and an understanding of the differences between the methodologies and research design. The first part is a discussion of the nature of the methodology as a process of inquiry for this study. It starts with a description of the design of the research strategy through qualitative inquiry. This is followed by a justification of the choice of a naturalistic paradigm as a strategic approach to the decision-making methods of this study, and reasons for determining a case study approach as the most significant research method. The second part details the research methods to compare the cases more closely. In this part, fieldwork experiences are explained step by step in a logical way. The third part presents several approaches for how data from fieldwork are analysed and interpreted. The chapter closes with an explanation of the noteworthy points from the above experiences.

Chapter 4. **Denpasar: Inside the Phenomenon** illustrates the context of the study. It starts with the story of Denpasar and its development; then, local and national housing policies which aim to provide adequate accommodation for people are presented. The chapter introduces the context from cultural and traditional perspectives, and the meaning of the house from the Balinese point of view. Some points are concluded from this contextual setting and give an introductory picture of the context prior to the analysis.

Chapter 5. **The Process of Inhabiting: Becoming at Home** is the first of two analytical chapters which cover the empirical analysis and explore the research findings in order to answer the first main research question about the nature of the interaction between the occupants and urban dwellings and the process of transformation. It covers the main issues of housing satisfaction, including some reasons for and methods of transformation, and housing preferences. The chapter ends with preliminary conclusions of the first analytical part, which will be explained further and linked with the concluding chapter.

Thus, Chapter 6, **Reconstructing Socio-cultural Elements,** discusses the findings in order to answer how the processes of housing transformation articulate specific aspects of the socio-cultural lives of the occupants. Each part of this chapter explains how continuing socio-cultural processes modify behavioural settings, shape and change the housing layout. Hence, this chapter opens with a discussion of domestic life, inhabiting the socio-cultural settings and spatial order, and hybridisation towards a new identity. The end of the chapter describes a preliminary conclusion to the main issues concerning the creation of a core concept of socio-cultural change in urban housing in Bali.

As a final point, Chapter 7, **Concluding Discussion: Behind the Phenomenon,** provides a reflection of the thesis, where the research questions and objectives explicitly converge. This is not simply a review of the discussion, but also an integrated discussion of the interrelated parts of the examined variables, particularly the analytical part. Thus, it progresses towards a comprehensive and coherent understanding of the relationship between house and culture that can be drawn from this research. It also provides implications of findings and proposed further investigations, which end this chapter.

chapter 2

Housing Phenomena: Theoretical Perspectives

Chapter 2. Housing Phenomena: Theoretical Perspectives

Architecture involves not just the provision of shelter from the elements, but also the creation of a social and symbolic space – a space that both mirrors and moulds the worldview of its creators and inhabitants.

Most architectural studies have dwelt on the monumental and the formal; it is only relatively recently that vernacular architecture has come to be viewed as worthy of admiration and study… an aesthetic appreciation of powerful, often 'organic' qualities, the ingenuity and the appropriateness of what architects have aptly dubbed 'architecture without architects'…

For anthropologists, the study of inhabited space, its construction and daily use, can provide a 'way in' to a whole culture and its ideas… to analyse house forms in terms of kinship structures and social organization.

(Roxana Waterson, The Living House, 1997, p. xv)

Housing Phenomena: Theoretical Perspectives

Prior to the Discussion

This chapter begins with a consideration of a specific type of built environment: *the house*. Rapoport (2005, 1998, 1985) clearly explains that the housing phenomenon has expanded into the Environmental Behavioural Studies (EBS) context. The reasons for this can be understood as follows: first, all cultures and ethnic groups in the world have some variety of dwellings; hence, it is possible to compare and generalise from them. Second, the dwelling is the primary setting for most people, which makes it of primary importance. Third, the dwelling is the most typical product of traditional designs, and, hence is the one most influenced by culture. It also varies with culture, and the reasons for its extraordinary variability therefore pose important questions about the role of culture.

Principally, courses of social and behavioural sciences are formed from discussions about people, culture, and the environment. Anthropological perspectives deal with knowledge about how people in different cultures and periods in history have formed their homes and settlements, societies, and cities. Altman and Chemers (1980:6) suggest that in order to examine interpersonal relations and social interaction in the context of the physical environment, a social-psychological perspective should be adopted. For that reason, this study

was approached from a social-psychological perspective on the relationship between culture and the built environment through exploration of the perceptions, attitudes, and behavioural settings of the occupants in the houses. In other words, the focus is on the links between various psychological processes.

Subsequently, after defining home and house, it is inappropriate to try to relate *culture* and/or *society* directly to housing because the concept of culture is too broad, general, and abstract. Rapoport (2001:145) suggests that operational definitions and a *dismantling* of the concept of culture should be emphasised as general approaches. More specific and concrete variables, as derived from dismantling culture, are then easily related to housing and all intersecting variables. For this reason, it is necessary to reiterate that this research is concerned with how people and cultures affect their dwellings and vice versa.

The experience of dwelling and the significance of home are widely accepted as universal human experiences by Western philosophers (Cooper-Marcus, 2006; Lawrence, 1987; Tognoli, 1987; Dovey, 1985). It is not surprising that a built environment as salient and universal as the home has attracted interest from many researchers. 'Home' is a complex and multidimensional concept, but a house can also acquire significant meaning through its particular geographic space; every ethnic group interprets the meaning of home differently. The nature of home-making is a complex process implicit in housing. It aims to draw attention to the underlying activity that drives acts of house transformation and changes it continually in order to make the home meaningful.

Furthermore, although it is inspiring to think about home environments, EBS covers a broad and multi-disciplinary area of study; indeed, numerous aspects of this field are contradictory and unintegrated, As a result, the conceptual framework and theories must be clearly defined. Following Rapoport's recommendations (1985:256), all relevant theories are specified as a means to *explain* the housing phenomenon, while the conceptual framework provided a way to *think* about this phenomenon and to order the data prior to the fieldwork.

Therefore, this chapter attempts to interpret the housing phenomenon from relevant perspectives drawn from the literature, based on four core issues. The first issue is the concept of culture and its change with respect to the built environment. Some explanations of the relationship between culture and the environment are also developed in this section. The second section discusses the multidimensional relationship of home environments. This reveals how the notions of 'house', 'home' and 'dwelling' are complex, multi-faceted, and multi-layered concepts; it also examines home experiences, the process of inhabiting through home-making, and how some home preferences and attributes can be indicators of a house in the process of becoming a home. The third issue concerns how housing influences the people who live there, and vice versa, and how family behavioural responses address a housing deficit. The last issue encompasses a discussion of several related theoretical reviews of housing transformation and their interrelation with spatial organization, focussing on physical and functional characteristics, as well as how houses change over time. This chapter ends by presenting the framework of the investigation in Table 2.2 to reveal the housing transformation phenomenon in the field from the specific perspective of spatio-temporal order. This framework led to the fieldwork in the investigation, which facilitated collection of data and aided the exploration of the phenomenon.

2.1 Culture and Built Environment: What Does Culture Do?

> *The interaction between the use of space and architecture and the view that some aspect of culture is responsible for that interaction…. Ethnologists need to be aware of a group's use of space and built environment and to regularly include them in their studies of a people's culture. Architects need to seriously study those aspects of culture that are most likely to influence the use of space if they want to design compatible buildings. Geographers need to look beyond spatial concepts, urban planners beyond design concepts, and psychologists beyond mental concepts in order to fully understand a society's built environment or use of space….* (Kent, 1990:2–3)

The study of the house within a cultural context reveals two things. Firstly, networks of practices and ideas exist that are drawn from the shared experiences and histories of social groups. Secondly, these practices and ideas can be evoked to account for specific patterns of house life and house form. However, the concept of culture is notoriously difficult to grasp. A specific approach is needed when discussing culture within the EBS context. Various sociological and historical studies of housing have provided the viewpoints for explanation of all housing phenomena. In turn, practices and ideas (in short, *culture*) have shaped those phenomena.

2.1.1 Understanding Culture

The term *culture* is commonly used in sociology, anthropology and social psychology. Kroeber and Kluckhohn (1952) collected 150 definitions of this term from many levels of many societies in the world. Altman and Chemers (1980:3) state that the concept of culture reflects a multi-faceted set of things, from abstract principles about how we view the world to more concrete actions. It covers what people believe to be true of the world, people's lives, environment, and common ways to view the world and to behave. Home designs, community layouts and public buildings often explicitly reflect the values and beliefs of a culture.

Rapoport (2005:77) points out that: *"culture is an idea, a concept, a construct: a label for many things people think, believe, and do and how they do them".* His opinion reflects Edward B. Tylor's in *Primitive Culture* (Rapoport, 2005:77) who defines culture as *"the complexity of intangible things of people as a member of society, such as knowledge, belief, art, law, and habits"*. Additionally, Rapoport does not address the definition of culture, but essentially asks why humans should have culture. Meanwhile, Williams (in Barker, 2002:67–68) emphasises *"culture as a whole way of life"*, which is concerned with tradition and social reproduction, including issues of creativity and change.

In the context of house life, many scholars have argued that the concept of culture can be understood only with respect to the socio-geographical perspective (Bourdieu, 1977; Douglas, 1966). Subcultures, ethnic groups, and individuals create diversity through ordering their housing; *"house life is practiced from customs and habits of occupants"* (Pratt, 1981:141). House forms, their internal layouts, and the layout of dwellings in a neighbourhood can be either disruptive or supportive of the culture of their occupants (Jabareen, 2005; Ozaki, 2002; Rapoport, 1969). In his book, Lawrence (1985:117) wrote that *"houses are sociocultural artefacts"*, developed from the concept of *habitus* (Bourdieu, 1977). With regard to the house,

the habitus concept defined dwelling environments as the time-line of past and present that provides a framework for daily household experiences.

Meanwhile, Rapoport (1998:4) suggests that, in order to deal with housing, the concept of culture should be defined in a neutral way. In light of EBS theory, cross-cultural studies make two areas of study possible: the first involves EBS and seeks to establish links between people and the environment, and the second explores the requirements for the design of culture-specific environments. Therefore, with regard to the question of what culture is, in many publications he described culture as the way of life of people, including their ideas, norms, rules and routinized behaviours.

It is possible to simplify the definition of culture by dealing with many of the above viewpoints. For the purposes of the current study, the concept of culture is defined as a set of values and beliefs from which a characteristic way of viewing the world develops; it is the transmission of symbols of culture across generations through meaningful practices and built environments, and the way settings are used. The relationship between culture and housing is manifested in purposeful design and everyday use. Furthermore, in order to answer the question of what culture does. This relates to Rapoport's (2005) view that there are three types of sub-components. The first is the purpose of culture to provide *a design for living* through the various rules relating to how things should be done. In the second view, the purpose of culture is to provide the framework that gives meaning to particulars *things*, which only have meaning in relation to each other within some framework. The last one is that the purpose of culture is to define specific *groups*.

2.1.2 Achieving Culture–Environment Relations: Dismantling the Concept of Culture

As already pointed out, since the concept of culture is both too abstract and too global, it is helpful to explain the relationship between culture and environment (Rapoport, 1998). For this reason, a clear definition of *environment* is necessary. In the context of this study, Rapoport's perspective (1998:7; 1990:11) is used, namely that the environment can be conceptualised as "*a system of settings*". Similarly, Altman and Chemers (1985:4) defines this term as *built environment*, which is the result of human alteration of the environment. In terms of the scale of environments, the house represents a very small part.

In the case of the environment, Rapoport (1998:7, 1990a:10) presents the view that the process of clarification of the above relationship involves *dismantling* the concept of culture. Accordingly, a critical view of culture is not merely an ideational term. No one will ever *see* culture, but we can appreciate its outcomes, or, at least, its fundamental parts.

Thus, in order to respond to the problems of the excessive abstractness of culture in many publications, Rapoport (2005, 1998, 1990a) develops two complementary perspectives. The first is a *socio-cultural* perspective in which *social* and *cultural* are defined as independent terms (Rapoport, 1969), with 'social' referring to the expressions and products of culture which are observable and more concrete. This can be family and kinship structures, social networks, roles and social institutions. More importantly, the social can be practised in the

built environment, in contrast with culture, which is an *ideational* and *theoretical* construct. In the second perspective, the global nature of culture begins with the opinion that *design for culture* is more acceptable than the linkage of culture and environment. For instance, the designed house as a type of built environment for a specific culture or group needs to be clearly defined in terms of 'environment' and 'housing' in order to deal with culture. Two strategies for dismantling culture are illustrated in Figure 2.1.

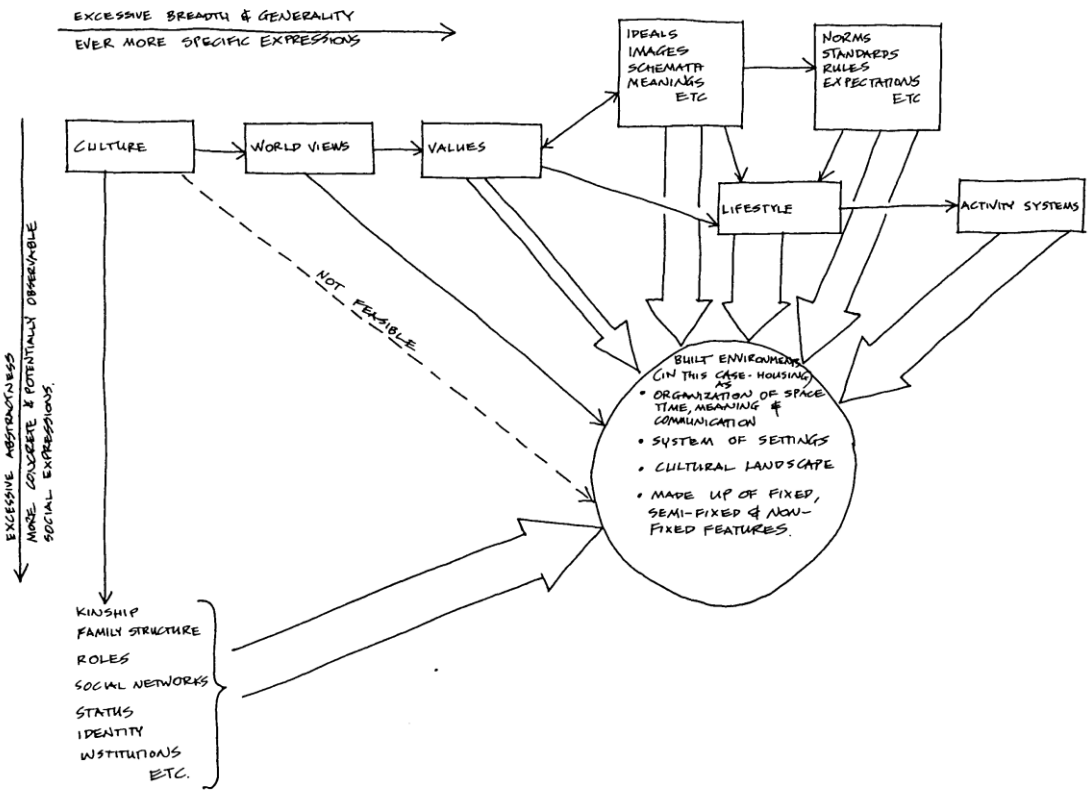

Figure 2.1 Diagram of dismantling culture
(Source: Rapoport, 2005: fig.45, p.98)

This study supports Rapoport's view that the social networks is an expression of culture; thus, the context of 'socio-cultural lives' here refers to the products of Balinese culture that are relevant to the house-life in urban dwellings, such as belief systems, values and norms, ideas for housing layout, kinship and family structure. It is developed from Oliver's ideas (2006:8-9) in important discussion of why the relatively few things people do in dwellings require so many types and forms of dwelling and settlement. The answer to this begins with activity as an expression of lifestyle, values, and finally, culture; thus, addressing the research questions begin with a discussion of Balinese domestic activities that influence spatial arrangements within their houses. *"Culture helps us to understand the different orders used"*, as Rapoport (1984:52) has pointed out.

2.1.3 The Psychological Processes

Through a set of psychological processes, people are linked with cultures and physical environments. Altman and Chemers (1985:5) specify these processes within two predominant classes: *mental activities* and *behavioural activities*. Beliefs and attitudes are categorised as mental activities that are affected by the physical environment. However, the way people experience their environment motivates them to create shelter. As a result, a number of cultures view how the function of environments affects how people's ways of living are constructed. The next class involves *overt behaviours*, how people instigate some actions in response to their environment. Psychological processes inspire the cultural similarities and differences between groups of people with respect to the environment.

Figure 2.2 presents a framework of the relationships between culture and environment. It consists of five integrated and interdependent elements and additional sub-elements in order to understand such relationships. All parts influence the others in complex ways and contribute to a social system. For instance, environmental orientations and worldviews remind us to be aware of how people arrange their housing layout and the use of space in their homes, and how to maintain this tradition over generations. These are particularly relevant to the topic of this study.

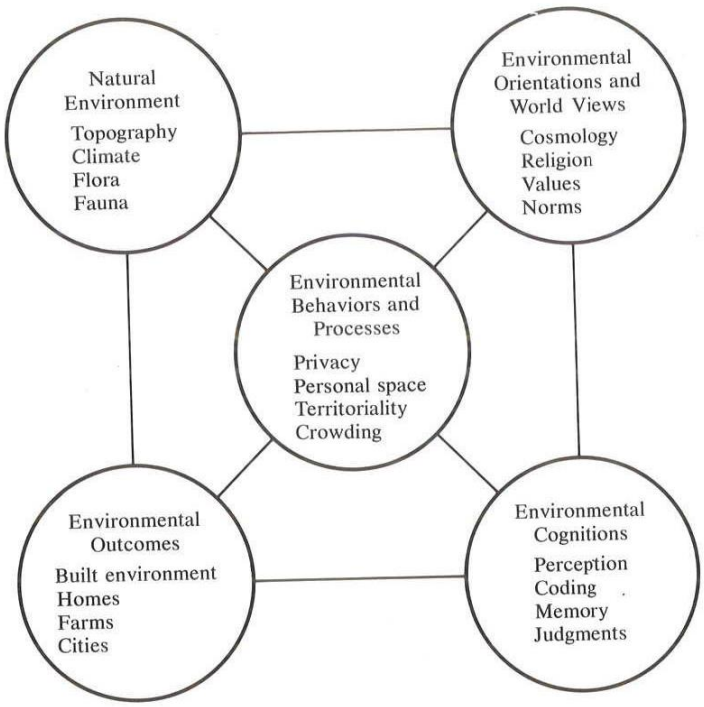

Figure 2.2 A framework of culture and environment relations
(Source: Altman and Chemers, 1984: fig.1-1, p.10)

2.1.4 Cultural Processes: Definite Continuing Phenomena

Social and cultural anthropologists understand that cultural issues and problems are continuing phenomena in the development of society. Such a phenomenon is abstract, transitional, unstable, and can interpret the cultural changes of society. Consequently, these processes inevitably create various forms of material culture, including built environments and architecture. The processes also promote the continuity of cultural features. Guvenc (1990:300) notes: *"change and continuity are therefore not contradictory but complementary aspects of the same process."* Referring to a study in traditional Madurese housing, Faqih (2005:49) mentions two main characteristics of cultural change. The first is that internal influences are motivated by a desire for change from the people; the second concerns external influences which affect where the changes take place due to the movement of outside cultures.

A more integrated approach to the above issue is needed in order to provide relevant research for many scholars. Built environments are significant as they play the main role in *"understanding society more generally"* (Blier, 2006:31). Kent (1993:3) supports this: *"architecture is a reflection of behaviour or the use of space, which, in turn, is a reflection of culture."* Lightfoot and Eddy (1993:291), who carried out a study of prehistoric dwellings in Colorado, emphasises this point: *"changes in house form can be an extremely powerful tool for understanding cultural change"*. Therefore, it can be noted that the transformation of domestic architecture and cultural process are very closely associated.

Hacihasanoglu and Hacihasanoglu (2006:902) carried out a study on urban dwellings in the Sisli–Bomonti district of Istanbul, Turkey. They demonstrate that the cultural change model covers cultural change processes and their impact upon housing systems. Enculturation is one of the cultural process that causes changes in peoples' lifestyles. These changes can help to form the opinions of a society about its housing systems. Berry (in Hacihasanoglu and Hacihasanoglu, 2006) categorised the cultural process model in terms of culturation, acculturation, cultural shock, cultural diffusion, transculturation, and cultural assimilation as other cultural processes constituting cultural change.

Acculturation is one model of cultural change that is relevant to the present study. This model describes the incorporation of individuals or groups from different cultures into a definite culture, wherein moral and physical objects are obtained by cultural diffusion processes and their exchange (or by the exchange of cultures) due to the interactions between them. According to (in Hacihasanoglu and Hacihasanoglu, 2006), the acculturation process incorporates three different behaviours: first, adaptation of changes in behaviours (under acculturative influences); second, reaction to new behaviours (under acculturative stress); and third, leaving the environment (under acculturative stress). Acculturative stress is described as *"a certain form of stress due to challenges in the process of acculturation"*. It has also been defined as *"a particular set of stress behaviour, lowered mental health status (especially anxiety, depression), feeling of marginality and alienation, heightened psychosomatic symptom level and identity confusion"* (Berry et al., 2011, p. 284).

Rapoport and Hardie (1991:42) emphasises that *"the process of culture change that is associated within the built environment is dynamic, so that the problem is to identify persisting traditional elements, as well as disappearing, changing, and new elements"*. Longitudinal studies

and historical data are needed in order to approach this process; as a result, this study can generate and develop EBS (Rapoport, 1990a). Additionally, the sequential study of the traditional environment over time is able to establish a starting point for this environment in order to identify changes, such as which parts are disappearing and any newly introduced elements. It is important to bear this in mind: this study highlights the identification of change and the continuity of social elements with the purpose of providing clues as to the important elements of the cultural core associated with the traditional environment (Rapoport and Hardie, 1983).

Cultural change is generally analysed in relation to the traditional environment, so three sets of elements can be defined. This identification enables us to decide which parts are *core* elements (social, physical, and cultural), which are *peripheral* elements that are flexible, and which are *new* elements that can be considered important. Accordingly, understanding this phenomenon allows the prediction of future developments. The tracing of the changes over time is illustrated in Figure 2.3.

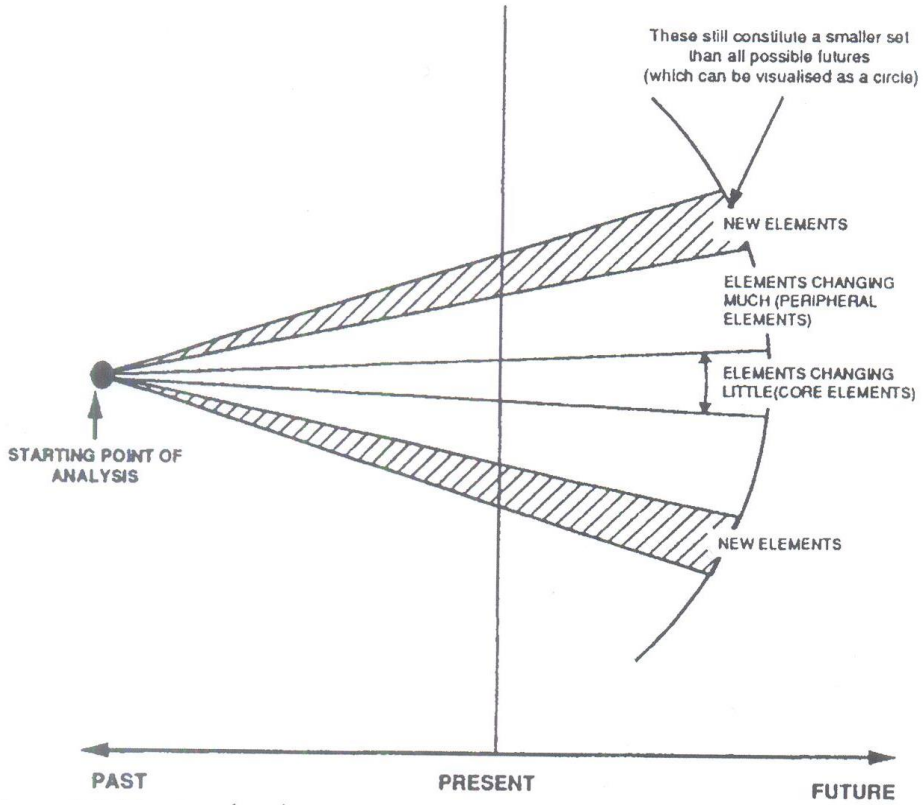

Figure 2.3 Tracing changes over time
(Source: based on Rapoport, 1983:261)

The unchanging identities of one group of people appear as *natural*, and when *naturalness* is seen to dissolve, the resulting identities tend to be seen as *new*. Barker (2008:257) argues that the concept of hybridity highlights *"cultural mixing and the emergence of new forms of identity"*. Pieterse (1995:49-50) suggests a distinction between structural and cultural hybridisation. The first, *structural hybridisation* refers to "*a variety of social and institutional sites of*

hybridity… It increases the range of organisational options open to people." The second, *cultural hybridisation,* distinguishes *cultural responses*, which *"range from assimilation, through the forms of separation, to hybrids that destabilize and blur cultural boundaries. This involves the opening up of imagined communities."* Pieterse also argues that both hybridisations are signs of increased boundary crossing. In light of Pieterse's view, Barker (2008:258) finally points out that *"the concept of hybrid has enabled us to recognise the production of new identities and cultural forms"*.

The process of hybridisation was encountered during the course of the present study. The situation of urban dwellings in 2001 is a starting point for tracing the process of cultural change over ten years. The tracing of housing changes was needed in order to derive lessons for the present and future. In light of this process, it is possible to identify those elements that are changing rapidly and those that are changing slowly or not at all. Finally, new forms of Balinese identities are recognised in this research as a product of hybridisation due to globalisation and modernisation. Ultimately, the lessons learned from the hybridisation of Balinese identity can be used to create the future characteristics of urban dwelling.

2.2 Home Environments: Connecting the Relationships

With regard to the current study, three keywords are employed to explicate the terminology: *house*, *home*, and *dwelling.* In accordance with Lawrence's (1987) suggestion, this section begins with a discussion of the significant distinguishing aspects of these terminologies. This is then followed by explanations of relevant themes in order to support the analytical parts of the following chapters.

2.2.1 House, Home and Dwelling: A Pathway Approach to the Definitions

Many studies in anthropology, psychology, human geography, history, architecture, sociology and philosophy have examined and developed the concepts of house and home. After more than three decades of research on the meaning of the built environment, terms such as 'house', 'home', and 'dwelling' can still not be clearly distinguished, and some experts use these terminologies interchangeably (Clapham, 2005; Gram-Hanssen and Bech-Danielsen, 2004; Coolen et al., 2002). Furthermore, many researchers argue that the meanings of 'house' and 'home' reveal a discrepancy in inter-personal and social groups in the same city, and even across cultures. The meanings of those are complex and elusive (Stea and Turan, 1993; Lawrence, 1987; Altman and Werner, 1985). Lawrence (1995:53) notes that *"the concept of home is ambiguous"*, and therefore, it is hard to define clearly. Moreover, there is a lack of consensus about the uses of terminology such as 'home', 'dwelling', and 'housing' (Benjamin, 1995; Lawrence, 1987; Altman and Werner, 1985).

Coolen et al. (2002:114) argue that a distinction has to be made between 'house' and 'home'; these terms were originally intended to distinguish the physical structures (house) from the set of relationships (psychological, social, cultural, affective, and behavioural) that people have with such physical structures. The meaning of a house is derived from a subset of these

relationships and implies the 'expression of home'. This then determines the distinction between *product* and *process*. Meanwhile, Rapoport (1995:45) defined 'x' as an additional value that distinguishes a house from a home. This 'x' refers to a set of relationships between people and important systems of settings, of which the house may be the primary setting or anchoring point.

Discussions of the house are concerned with the meaning of the house as a physical structure that is created by means of the housing process, whereas most people perceive their place of residence (house), in terms of symbolic meanings, as their home. Home refers to mental and social well-being as well as experienced space. Lawrence (1987:117) states that *"the house is attributed to personal and social functions, as a haven for withdrawal from society and as a credential for esteem and the respect of others."*

The meaning of home goes beyond the physical structure of the house. This relates to the setting or locale of social practices or *home life* (Clapham, 2005:117), as a *machine for living in* (Corbusier, 1960). Accordingly, some questions around the concept of 'home' need to be answered. What makes a house a home? What does 'home' symbolise? What does 'home' mean to people in the context of their particular ways of thinking and their culture? How do people define their homes and describe their importance?

The above questions are essentially approached from the perspective of home and what makes a house a home. This focuses on the different components of home that play a role in shaping the concept, and these derive from many aspects. This is mainly due to the fact that the form and use of houses are largely affected by the cultural settings and the way of life of a society (White and White, 2007; Kellett and Moore, 2003; Moore, 2000). The meanings of home range from a basic physical entity to a place of emotional and physical well-being where one experiences loving and caring social relations, as well as where one has control and privacy. Home also connotes *the process of dwelling* and the social and emotional relationships this process entails (White and White, 2007:90).

Meanwhile, more than a physical shelter, the house is defined more comprehensively in the Habitat Agenda, Chapter IV, published by the UNCHS in 1996 as follows:

> *Adequate shelter means more than a roof over one's head. It also means adequate privacy; adequate space; physical accessibility; adequate security; security of tenure; ... adequate basic infrastructure; ... and adequate and accessible location with regard to work and basic facilities: all should be available at an affordable cost. (UNCHS Habitat Agenda, 1996:22)*

Benjamin (1995:299) also puts forward the following robust definition of home: *"the home is that spatially localised, temporally defined, significant and autonomous physical frame and conceptual system."* For him, home is a connection between people or society and their dwellings on simultaneous spatio-temporal scales through the ordering, transformation, and interpretation of the tangible and intangible aspects of domestic life. Mallett (2004:65) completes the definition of the concept of home as follows: "*It is a place where space and time are controlled and structured functionally, economically, aesthetically and morally and where domestic communication practices are realised."* Clapham (2005:153) thus argues that home is mainly related to the emotional and meaningful relationships between people and their residential environments. The house can be seen as the major setting for the meaning of home,

which is influenced by the social interactions within it. People's feelings about their residences can be expressed in the form of changes that they might make to the physical structure of their houses in order to satisfy their changing needs and aspirations.

Subsequently, conceptual clarity might be created by using the more cross-culturally forceful term *dwelling* instead of the term *house* and *home*. Rapoport (1985:264) defined dwelling as a *"system of settings within which a particular set of activities takes place."* This refers to not only domestic activities, but may also involve socio-psychological functions. Additionally, Rapoport (1990b:12) explains that as a 'primary anchor', a dwelling is the basic operation which affords shelter and the place which most people inhabit in order to carry out their home life, and explore and experience the world; it is a place to which they surely know to return.

Considering a dwelling as a subsystem of the environment, Coolen and Meesters (2012:2) suggested an understanding of the specific functions of a dwelling, such as *"a place of retreat, not only in terms of its occupiers, but also in the context of the other subsystems in the environment"*. These specific functions may be different for dissimilar individuals and the subsystem of settings that makes up the dwelling may also vary. It may include, for instance, a certain number of rooms, a garden, a driveway, a garage, a certain layout, an attic, or many other features. Authors such as Oliver (2006) and Rapoport (1969) have argued that a dwelling can be considered as a cultural artefact, which implies the existence of more or less shared conceptions of dwellings within cultures.

From the above discussion, it can be understood that a 'home' is a more intangible notion than a 'house', since it is seen as a part of the experience of dwelling and as a way of living life in a particular geographical space. In relation to this, Saegert (1985:287) stated that:

> *The notion of dwelling highlights the contrast between house and home. First, it does not assume that the physical housing unit defines the experience of home. It connotes a more active and mobile relationship of individuals to the physical, social and psychological spaces around them. It points to a spiritual and symbolic connection between the self and the physical world and emphasizes the necessity for continuing active making of a place for ourselves in time and place. Simultaneously, it points to the way in which our personal and social identities are shaped through the process of dwelling.*

The point of view is a house provides a physical shelter for households and can be seen as the setting or locale for certain social practices that we call 'home life' (Clapham, 2005). A house also has characteristics that influence the health, well-being, and lifestyle of the people who live within it. Houses are also homes. The term 'home' can be understood as a process of dwelling (White and White, 2007; Saegert, 1987), which involves a set of relationships, including physiological, social, cultural, affective, and behavioural relationships (Coolen et al., 2002; Rapoport, 1995), that people have with their shelter. Home is a setting for the most intimate and private emotions (Clapham, 2005; Lawrence, 1987). Another point to emphasise here is that a dwelling has to be seen as a physical shelter, which is a basic need for human survival. This is due to the fact that the dwelling plays a fundamental role in people's daily lives (Clapham, 2005), shaping the physical environments around them as well as their lifestyles and social relationships (Saegert, 1987). More specifically, this is the system of settings which comprises the activity systems of domestic life (Rapoport, 1995, 1990).

2.2.2 The Dialectics of Home

The notion of home can be understood through dialectic processes and changing interactions over time. Even though the house is static, home is fundamentally dynamic and process oriented. Dovey (1985:45) states that the meaning of home emerges from its dialectical interaction along a series of binary oppositions. These dialectical oppositions may be primarily divided into *spatial* and *social* dialectics. Figure 2.4 illustrates these dialectics. At each level, the meaning of home gains in intensity and depth from the dialectical interaction between the two poles of experience. For instance, *"Home is a place of security in a dangerous world, a familiar place in a strange world, a sacred place in a profane world"* (Dovey, 1978 in Dovey, 1985:45). It is only through the dialectical interaction that the meaning of home develops. It is relevant to this study in exploring the meaning of home from a Balinese perspective.

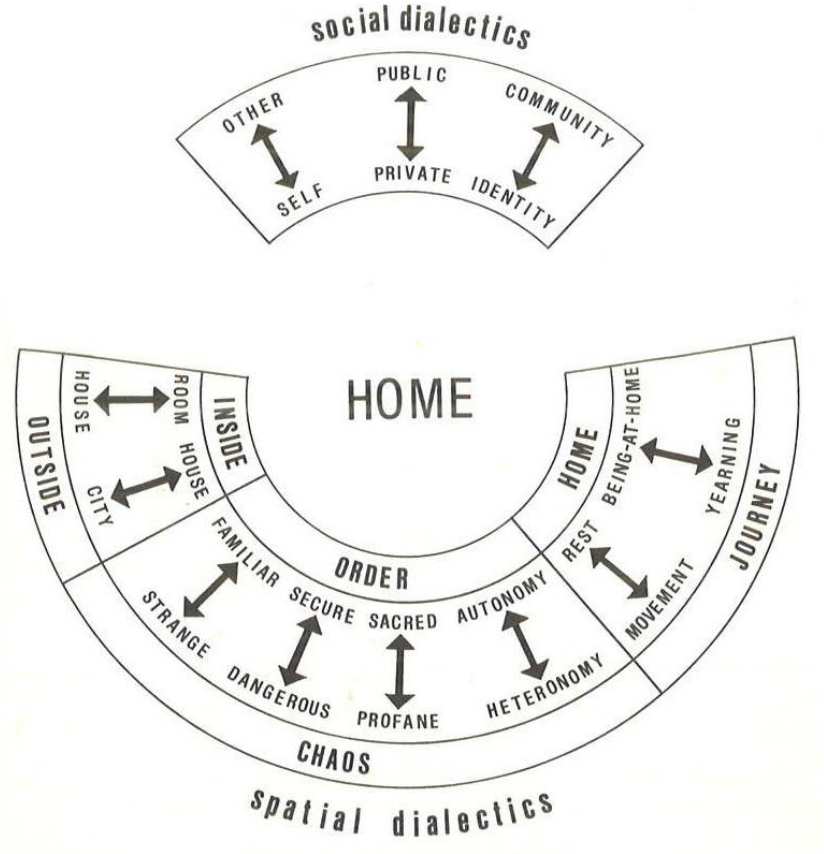

Figure 2.4 The dialectics of home
(Source: Dovey in Altman and Werner, 1985:45)

2.2.3 The Experiential Phenomenon of Home

The previous section describes the concept of home and distinguishes this from the terms 'house' and 'dwelling'. In Dovey's (1985:34) view of this phenomenon, three themes emerged. The first theme relates to various kinds of *home as order*, which refers to the meaning of the relationship between house and home. The second, *home as identity*, relates to where people

dwell; and the third, *home as connectedness,* describes the essential dynamism in the process of becoming at home. Therefore, for the purposes of this research, the term 'home' is intended to refer to the experiential phenomenon in a meaningful way.

Ordering the home is understood to be a way of patterning the environment through the experiential and behavioural orientation of dwellers within spatial, temporal, and socio-cultural settings. Orientation in space enables people to demarcate their territory from the universe with physical and symbolic boundaries, so they can control access to and behaviour within that territory. In terms of temporal order, home includes direct experience of places over time and a familiarity with certain spatial patterns from other places within past experiences (Dovey, 1985:37).

Cultural beliefs and social practices represent the ordering system that selects from among these possibilities and shapes the broad range of formal manifestations of home within any socio-cultural context. Even though domestic activities are common to all ethnic groups, these obviously differ in terms of the cultural practices that orient the ordering of space and time. It can be understood that patterns of dining, sleeping, talking, studying, watching television and other home activities differ according to the occupants in terms of space, time, and the socio-cultural setting.

Identity at home includes a definite attachment of person and place. This refers to the idea that *"people invest places with meaning and significance and act in ways that reflect their linkage with places"* (Werner et al., 1985:5). In other words, the place takes its identity from the dweller and the dweller takes his or her identity from the place. *"Identity is never settled"* (Jenkins, 2004:20), it is *"a life project"*. This is a matter of the representation of a self-image or a worldview and entails an important component that is supplied by the site itself, such as a symbolic body, cosmology, or other cognitive categories (Dovey, 1985; Rapoport, 1981).

Therefore, spatio-temporal perspectives not only connect people through the patterns of socio-cultural order that represent identity and the orientation of rootedness, home also connects past memories of place and the experience of familiarity and continuity, and connects with the future, in which people, dreams, and hopes change within the home place. In the context of this study, home is intentionally connected as a socio-cultural order from a spatio-temporal perspective to the relevant themes and sub-themes. Home is a highly complex system of ordered relations between people within space, time and society. This eventually delivers an understanding of the dynamic processes of socio-cultural order in the home. This process also involves the continuity and change of socio-cultural elements and considers new elements as a part of identity.

2.2.4 Home-Making: The Process of Living

It can be understood that housing practices are predominantly an act of making a home in order to establish and develop social relationships. People are concerned with bringing spaces and elements together in order to symbolise and celebrate desired relationships, events and memories. In the previous section, the idea that the process of *home-making* can be considered as a process of living was discussed. People shape and define the physical context, then

conceptualise and order the space through the process of inhabiting. In this way, the occupants use their experiences of places and then make the circumstances and contexts of the house meaningful.

The literature commonly suggests two distinct aspects of the concept of home – spatial and social – in which these two sides are not reciprocally exclusive or inseparable. For that reason, Bachelard (1994:viii-ix) presents the view that a home is *a fundamental place* in human life, and so home-making is an important activity in terms of an individual embracing the universe of space, things, people, and events. Home is the storehouse of history and memories of the family, and it collects the physical, social, psychological or emotional wealth of its occupants; indeed, Lawrence (1995:58) has argued. Habraken (1983:2) emphasises that home is *"created in the process of living which is in a constant process of consolidation and transformation"*.

In light of empirical case studies of homeless young people in London and Dublin, as well as informal dwellers in Colombia, Kellett and Moore (2003:137) discovered that consideration of elements, preferences, and descriptions of home inspires the occupants in the process of inhabiting. This consideration can be understood as *home-making*. In the process of home-making, the occupants also dynamically create the interpretations of their socio-cultural and personal identities and build the settlements through attempting to implement their constructed interpretations. These processes actively develop towards the future of the occupants.

Additionally, in another study on low-income urban settlements in Sri Lanka and Colombia, Dayaratne and Kellett (2008:66) point out that *"home-making is a continuous process that consolidates itself with each event of significance that adds to the sense of home by overcoming the obstacles that might diminish it."* Kellett (2013:151) explains people do imitation and copying the dwellings of others into the house in the process of home-making to increase their social status. He also emphasises, *"Houses play a crucial role as the site of many of these everyday social practices which are continually reproducing and reinforcing the social order."* Children copy and repeat the social order – the social rules, behaviours and language – of their parents and elders, and from formal education processes. A series of the process of home-making is illustrated diagrammatically in Figure 2.5.

Many studies note that despite the fact that the specific conditions of every culture are significant, there are many similarities in the processes and practices of home-making. For example, the conceptions of family, household, and domestic space have varied over geographical scales and periods, but the process of inhabiting of the occupants can be generalised (Lawrence, 1991). Homes come into being through occupation over time and institute numerous social and psychological aspects, and the interactions of an individual and family within spatial dimensions. Accordingly, the nature of home-making is an implicitly complex process of inhabiting the house in order to drive the practices of the house and make the home meaningful. These processes of becoming at home are relevant to this study.

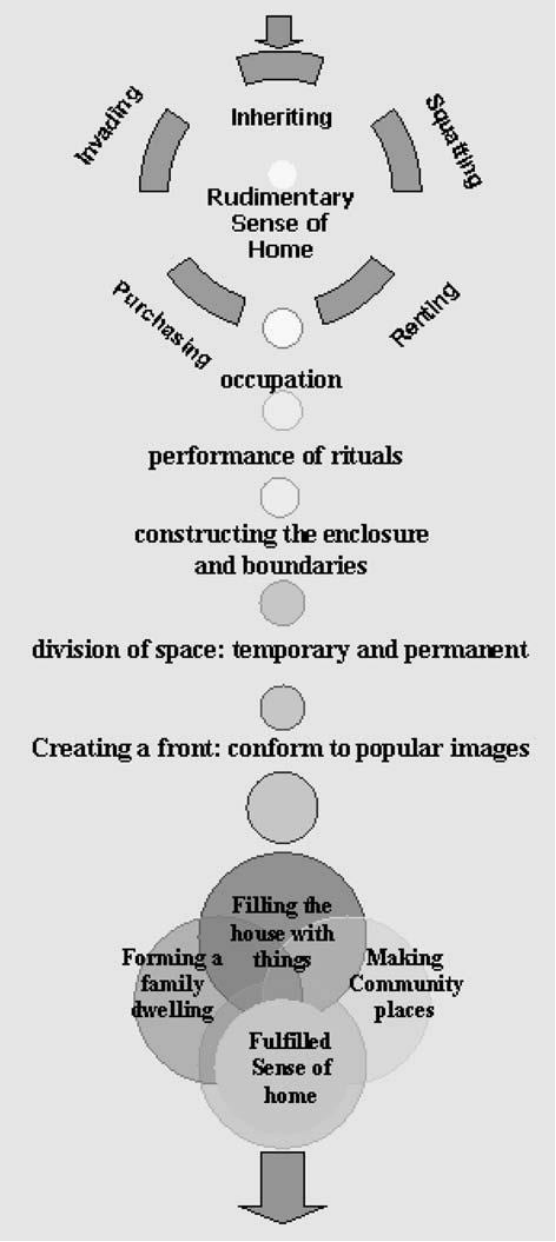

Figure 2.5 A diagrammatic representation of the process of home-making
(Source: Dayaratne and Kellett, 2008: p. 57)

2.2.5 Home Preferences: The Essential Qualities

A home is a way of connecting a life to a particular physical space (Saegert, 1985:287), and as such is a complex multidimensional concept (Lawrence, 1995:54). Nevertheless, the nature of the relationship between people and their physical environment occurs simultaneously with interpersonal relationships, particularly in the case of the attachment to home environments (Altman and Low, 1992b:10-11). In the processes of becoming at home, this predominantly determines the essential qualities of a home in terms of the distinction that exists between a house and a home. Tognoli (1987) proposed five general attributes in order to differentiate the

essential qualities of a home as opposed to a house: centrality, continuity, privacy, self-expression and personal identity, and social relationships.

The quality of *centrality* is generally associated with home environments and is perceived as the degree of personal control, permanence, and exclusivity of use that an individual (or group) has over a setting (Tognoli, 1987). Accordingly, Smith (1994:32) has argued that the home is a primary territory and so the owners of such territories expect relatively permanent, exclusive control and use of these environments. Primary territories constitute a central and profoundly significant aspect of the lives of their owners. The psychological experience of feeling attached to a place can be termed 'rootedness', which refers to a preference to return to their homes and feeling of belonging.

The experience of *continuity* can be defined as having a place to return to, where one feels a sense of belonging, and which stimulates feelings of continuity, stability, and permanence (Sixsmith, 1986:287). Sixsmith's research uncovered evidence that a feeling of *privacy* is an important characteristic of the home, within which the control of space can be understood as the control of social interactions within that space; and this implies a state of privacy, or control of access to the self. Home optimally provides such a place of privacy for the occupants, and this ability to achieve optimum levels of interaction with others is an important characteristic of the home environment, permitting feelings of ease and relaxation. Home also provides a backdrop for individual *self-expression*, as well as many significant experiences and happy occasions. When the home is familiar, well-known and has many personally meaningful places within it, its importance to individuals increases, whereas a sense of freedom in the home permits an extensive and significant range of self-expression. Additionally, Lawrence (1987) has suggested that personal objects communicate information about their owner(s), and that such displays communicate *personal identity* and self-esteem.

The home also provides significant aspects of the social dimension: *social relationships* and the emotional environment. Home is *"a centre of a spatial network"*, which includes the workplace and school, and which inhabits a place within an individual's social network (Smith, 1994:33). Such a network is based on the relationships within the home, and this extends to include close friends, relatives, neighbours, local shopkeepers, and neighbourhood acquaintances, with the home being the focus for a range of interlocking social networks (Lawrence, 1987). These people may enter the home in certain social situations, and according to specific social roles, both of which are under the control of the home 'owner' (Tognoli, 1987; Sixsmith, 1986:289).

The above discussion provides the key essential qualities in a home environment in order to determine how a home is thought to differ from other residential buildings. Nevertheless, in the context of the current study, *home possessions* are important to those who relocate (Shenk, 2004:160) or migrate to other places – for instance, from their house of origin in *kampung* to Denpasar. For migrants, possessions provide historical continuity, comfort, and a sense of belonging. A fundamental assumption in the literature is that what underlies a sense of *place attachment* is the personal meaning of the home. Place attachment *"is a set of feelings about a geographic location that emotionally binds a person to that place as a function of its role as a setting for experience"* (Rubinstein and Parmelee, 1992:139). Clapham (2005) uses the term 'home life' to relate to what people do at home and to how they *"experience daily life at home and interpret their home environment"*. As self-directed entities and meaning-makers, people

dynamically assign individual meanings to their homes (Rubinstein and Parmelee, 1992). In other words, in the process of becoming at home, physical aspects of the house combine with the home experiences of the occupants over time, which then results in a sense of place attachment through interpretation and dynamic meaning towards self-identity.

2.3 Housing: Multidimensional Issues

An acceptance of all the dimensions of home is essential for an understanding of housing design policy. Houses are rich with meanings that influence, and are influenced by, the way people act in them and towards them. Housing plays different social, cultural and economic roles in affecting people's lives. Housing supply, type and function are simultaneously influenced by the socio-cultural and economic characteristics of the people (Silos, 2007; Arku and Harris, 2005; Turner, 1979). This section discusses the aspects of housing that play an important role in providing places for living, such as housing needs, socio-cultural issues, and housing adjustment.

2.3.1 A 'Process' or an 'End-Product'?

> *Architects have historically been interested in the product of their design and noting the administrative and urban development processes through which designs are implemented.* (Madanipour, 1996:104)

Many scholars and practitioners have developed perceptions concerning housing as an 'end-product' (a noun) or as a 'process' (a verb). Turner (1976:151) was more concerned with the house as a 'verb' that describes the process or *activity* of housing. These perceptions interact with its broader social, economic, and political contexts (White and White, 2007; Kellett and Moore, 2003; Madanipour, 1996; Maclennan and Bannister, 1995). As an 'end-product', some researchers assume that housing is an economic *commodity* and possesses an exchange value that is affected by the mechanisms of the market. Additionally, after food, housing is ranked as the second most important basic human requirement (Bourne, 1981).

On the other hand, the viewpoints of housing as a 'process' highlight the concepts of participation and interaction at the different levels of the housing process in terms of production and consumption. In 1970, Habraken (in Abdala, 2007) emphasises the housing process not only as the production of a product (the house), but also as a process that leads to continuous interactions between humans and their houses through adaptation, alteration, maintenance and repair. Ten years later, Habraken then adds that, with regard to the meaning of housing as taking actions to dwell, the inhabitants might also live in a dwelling with people who did not participate in producing the house. In other words, people might be merely a 'guest' in their house. Meanwhile, Turner (1972) believes that as well as being a commodity, housing is also a sphere of complex interactions between dwellers.

Production and consumption processes may occur concurrently or separately, which depends upon the mode of housing provision. In light of the 'provider paradigm', since the consumption process usually starts with the occupation of the finished dwelling, the production and

consumption processes are separated from each other. In contrast, with regard to the 'end-user' paradigm that is involved in and controls the whole construction stage, both production and consumption processes are conducted concurrently. This is due to the nature of the process, whereby the owners build, occupy and improve their house in response to their housing needs and financial capabilities. In this respect, Alexander et al. (1985:16) highlights the necessity of the housing process in accommodating the occupants' requirements, needs, and values.

From the above explanation, it is clear that housing as an object or an 'end-product' is mainly focused on the quantitative aspects of housing production, whereas the term 'process' emphasises what housing does for the occupants. Therefore, with regard to this study, discussion centres mainly on the house as a 'process'. The house is the product of the occupants' lives and the physical expression of their place in the world. Like a human being, this physical shelter grows according to the occupants' needs and reflects their domestic lives. This growth interplays with relevant variables in the dynamic process of becoming at home, such as how the occupants experience their socio-cultural lives. These processes bring continuous interactions between dwellers and their houses through behavioural responses and physical change.

2.3.2 Housing Needs: Fulfilment and Residential Satisfaction

Levine (1995:31) separately defined the meaning of *needs* and *wants*, whereby the term 'needs' is perceived as things *"imposed upon me independently of my will"*, and 'wants' are things *"we choose for ourselves as a way of expressing who we are"*. Vischer (1985:289), who carried out research into user needs in housing in Canada, also argued that studies of user satisfaction are essentially concerned with the fulfilment of needs, whilst studies of user preferences are focused on the users' wants. Accordingly, Levine (1995) has argued that 'wants' have to be met through the market, whereas 'needs' require government action to ensure human well-being, social stability, and the economic development of society.

Additionally, Lawrence (1987) attempts to explain the user's housing needs within a simple framework of the hierarchy of basic human needs: see Figure 2.6. This hierarchy was inspired by Maslow (1987), and Cooper-Marcus (in Lawrence, 1987) modified it as a hierarchy of housing needs including shelter, security, comfort, socialisation and self-expression, and aesthetics. Lawrence (1987) further explains that many empirical studies have been conducted to measure residents' satisfaction with their home environment, particularly in relation to the fulfilment of the housing needs of security, socialisation and self-expression.

Numerous houses create a residential area that commonly comprises many elements, including dwelling units, open spaces, communal facilities, and infrastructures. In many cases, urban planners, architects, and designers undertake the planning and design of physical environments with regard to their own ideas. On the other hand, governments in the Global South infrequently manage to control their cities in terms of the provision of adequate infrastructure (Khan, 2004). In Africa and the Indian sub-continent, such problems are often attributed to a lack of resources or corruption and poor management, but even where neither

of these reasons is a critical issue, governments seldom seem to produce acceptable solutions to urban problems.

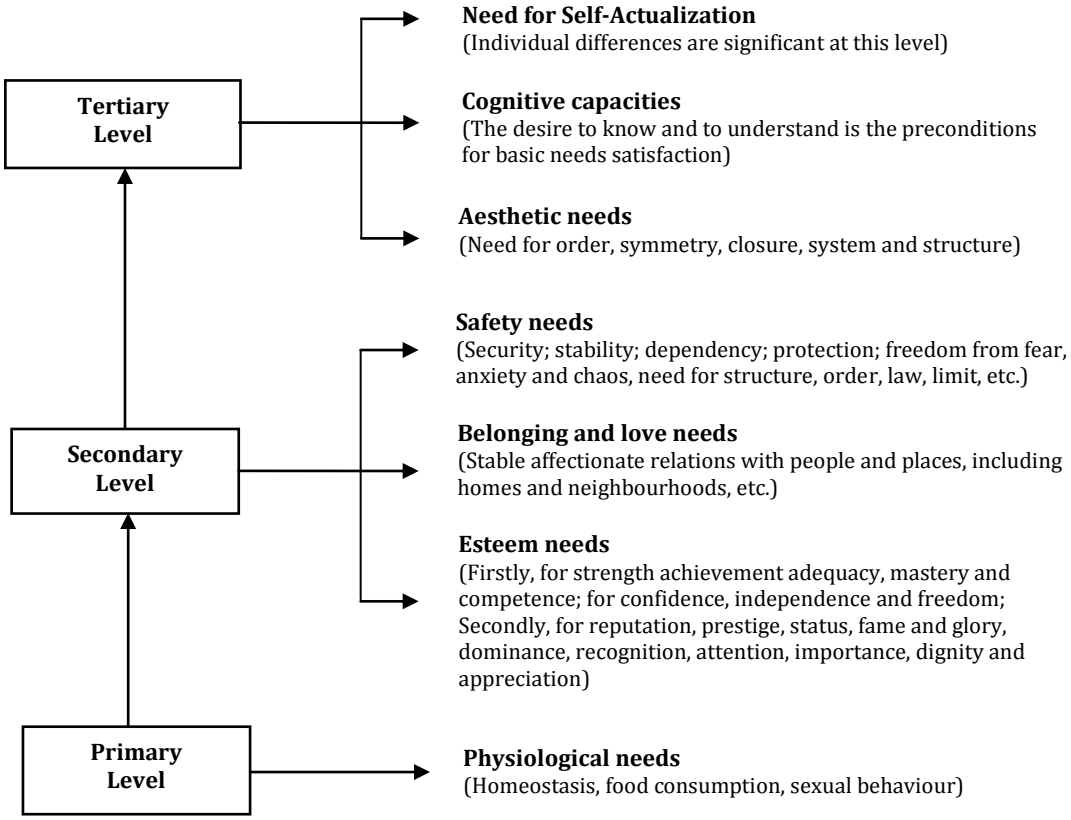

Figure 2.6 Hierarchy of basic human needs
(Source: based on the ideas of Lawrence, 1987: p. 159–160)

Many problems of inadequacies experienced in such residential environments are attributable to a mismatch between planning, design, and the conditions of physical environments on one side, with the socio-cultural needs of residents in other side. These gaps, which may be recognised in poor planning and design, can be identified through the assessment of the attitudes and preferences of residents with regard to their residential environment (Beer and Higgins, 2000). For that reason, the design of public housing needs to consider the socio-cultural lives of the residents such as traditions, values, beliefs, and norms, to influence and shape housing forms and the patterns of neighbourhoods. The planning of the residential environment is then considered more sensitive and responsive to the needs and aspirations of the residents. Residential areas should also be a sign of the way of life, the cultural norms and values of the community or society which lives within it. Socio-cultural lives are dynamic and tend to follow unwritten rules, but these features change and are modified in order to fit the setting and time, and are also inherited through the processes of socialisation across generations.

It can be understood that each society holds differing views in terms of the way of practicing daily activities. Experiences that are developed from other cultures can influence the

experiences of the members of a society. The ease with which it is possible to travel around the world enables people to interact with other cultures. Nevertheless, the fulfilment of people's satisfaction of cultural needs may help to maintain cultural diversity and support people's way of life (Beer and Higgins, 2000).

Modifications or adaptations to dwellings can be perceived as a way of making the built environment more responsive to the occupants' needs and of depicting their way of life at that time. This is relevant to Rapoport's view (1969:47) that housing design reflects the socio-cultural values of a household because of the structure of family, gender roles, carrying out domestic activities, and attitudes to privacy. Here, the processes of social intercourse play an important role. These aspects of culture frequently influence dwellers in arranging the house layout (Lawrence, 1987).

From the above discussion, it is reasonable to suggest that the socio-cultural expressions of the inhabitants play an important role in planning and designing settlements. Social variables cover the existential being of people, the reality of daily life activities, and the interpretation of idealised concepts. This supports the ideas of Lawrence (1987:83) that *"cultural variables are sets of normative, value-loaded concepts, and aesthetic principles that formulate idealised models of how the world ought to be".* The role of the socio-cultural dimension of the occupants is discussed in the following section.

2.3.3 Socio-cultural Issues: A Notable Contribution

From the social perspective, housing is influenced by and reflects the social trends of the occupants, such as future prospects and societal well-being (Cameron and Field, 2000; Maclennan and Bannister, 1995; Low and Chamers, 1989). Bourne (1981) underlines that housing should be viewed in terms of its social dimensions and perceived as dwelling units, or places for living and maintaining social order.

The socio-cultural values of a society make a notable contribution to the modes of housing provision as well as to the attributes of residential areas (Rapoport, 1977). Additionally, housing plays a major role in improving the well-being, satisfaction, and health of people (Rapoport, 1969). Nowadays, the acquisition of housing is also motivated by investment and can be a indirect contributor to income and production in many societies. This is a starting point for people in organizing their actions, stabilising their minds, and undertaking plans and programmes for doing something meaningful. As a result, housing becomes an important sector of the national economy (Tipple, 1993) and this importance can be measured through the levels of investment, employment or consumer expenditure generated by housing activities (Bourne, 1981).

Above all, the subject of housing is viewed as a multidimensional issue that provides many kinds of benefits to dwellers and their societies. Adequate housing reasonably undertakes the fulfilment of social needs, such as by providing plenty of space for privacy and a sufficient supply of social relationships and services. In contrast, poor housing generates various undesirable external effects (social costs), and vice versa. Accordingly, issues relating to the planning and design of housing projects should be given reasonable attention in light of the

socio-cultural needs of residents (Lawrence, 1987). This viewpoint also supports Turner's (1976) argument that housing should be seen as an essential feature of personal development, and its value concerns *what it does* for people rather than *what it is*.

2.3.4 The Housing Gap: How Does a Family Evaluate Their House?

Home adjustment activities is becoming important for a family who tend to stay in the same house for a long time. These activities are undertaken to meet housing demands of the family that change over their life cycle and aim to improve more and better the quality of the house. Riemer (1943) initially presented the idea of *maladjustment to the family home* which led to further research into housing behaviour (Steggell et al., 2003; Seek, 1983; Morris and Winter, 1976, 1975). These researchers developed Riemer's ideas in their studies, including how the family evaluate their house. Morris and Winter (1975:79) also identify two criteria used by families to judge their housing: *cultural norms* and *family norms*.

Seek (1983:457), who carried out research in Australia, explains that a housing gap in current dwelling indicates a gap between the actual and the preferred level of housing consumption. The occupant constructs their image of what the house should be like due to a variety of factors, such as changes in housing demands, socio-economic circumstances, and tastes and home preferences. Housing dissatisfaction or stress mounts over time encourages the occupant to take the best action in order to bridge the gap. In most cases, this gradual dissatisfaction can build over a long period or several stages of family life (Tipple, 2000; Seek, 1983).

Domestic life – everyday life, birthdays and other family anniversaries, weddings, funerals and social entertainment – is one of the cultural features that motivates a variety of housing needs and determines spatial requirements. The needs change considerably in order to negotiate the various spatial requirements and system of activities. In this context, in terms of repeating cycles, time also encompasses social changes within the family. In the process of evaluation, the house may not fit with culturally derived needs. In addition, the *housing deficit* can be reduced by behavioural responses that are discussed in section 2.3.5.

The demographic and socio-psychological characteristics of a family – family life cycle, social status, personality traits, and patterns of dominance – relate to family norms. Housing needs are determined by family composition and its size (Seek, 1983; Chevan, 1971); they also differ according to social status, occupational connections, and fundamental social customs in the neighbourhood of the family home. Significant differences are anticipated with regard to home situations, such as social entertaining, taking of meals, leisure time, childcare, sleeping arrangements and other house activities.

Cultural and family norms are substantial issues that motivate urban dwellers to anticipate housing needs and to want to change their houses. Evaluation of the house during occupancy by dwellers is required in order to reduce a housing deficit, so the gap between the current situation and the expected level of housing consumption can be condensed. Family behavioural responses should be considered by dwellers in order to make a choice between the alternatives for home adjustment. Nevertheless, Sueca's (2003) evidence suggests that many

young families in Denpasar bought a house and extended it incrementally over a very long period of occupation. On the other hand, due to the Balinese patriarchal system, those who live in traditional compounds prefer to improve in order to maintain tradition.

Therefore, cultural norms and family norms are two appropriate criteria in order to evaluate the house. These criteria can be used to explore the situation of home life and determine the cause of the occupants' dissatisfaction with their houses. The gap is identified by examining the home life in terms of a comparison between the current house and the desired level of housing consumption. In the context of this study, the home lives of the occupants have driven a variety of housing needs, increasing or decreasing, over ten years. Thus, this phenomenon encourages them to negotiate with their houses to determine spatial requirements.

2.3.5 Family Growth: Increasing Housing Demands

Referring to his research in Australia, Seek (1983:459) categorises the family life cycle into several stages: young single head, young couple, young family, mature family, older family, older couple, and older single. He reveals that the housing demands of a family tend to increase progressively to a peak at the stage of the mature family. This is due to the family reaching the end of the expanding phase of its life cycle and the fact that its income is near its highest level. Nevertheless, the demand for space then falls sharply when the children leave home and the household then enters the post-family stage with income falling at retirement. Seek also adds that the types of housing change relate to the expected housing demands at different stages. Additional space or rooms are a common requirement, while renovations and alteration work are undertaken in the phases of young family and mature family, but for different reasons: the former to accommodate increasing family size and the latter to accommodate growing children. As a result, housing improvements in these stages generally mean providing additional bedrooms and family rooms.

According to his studies in the Global South, Tipple (2000:114) produces models of the housing needs for a couple with three children which start from marriage. Housing stress is represented by shading; the lighter shade shows the relatively small and short-lived periods of stress, which are relieved by the two stages of house change activity. If the original government provision had been occupied for the whole of the household's career, there would have been substantially more acute and long-lasting housing stress, shown by adding the darker shade to the lighter shading above Q1: see Figure 2.7.

Sueca (2003) asserts that this is due to economic circumstances; in the early stages of marriage, couples of urban dwellers in Denpasar normally can afford a small house, which may not be fit for family growth. This family then improves the house in order to gain more space or better quality housing when their income allows, which may require the use of own savings or the securing of a loan. In contrast, mature households face a contraction in family size through decreasing space requirements. If these households live in the same dwelling for a long time, some parts of the house construction may appear to be less good. The equipment may become out of date or not function properly. The house therefore needs improvement.

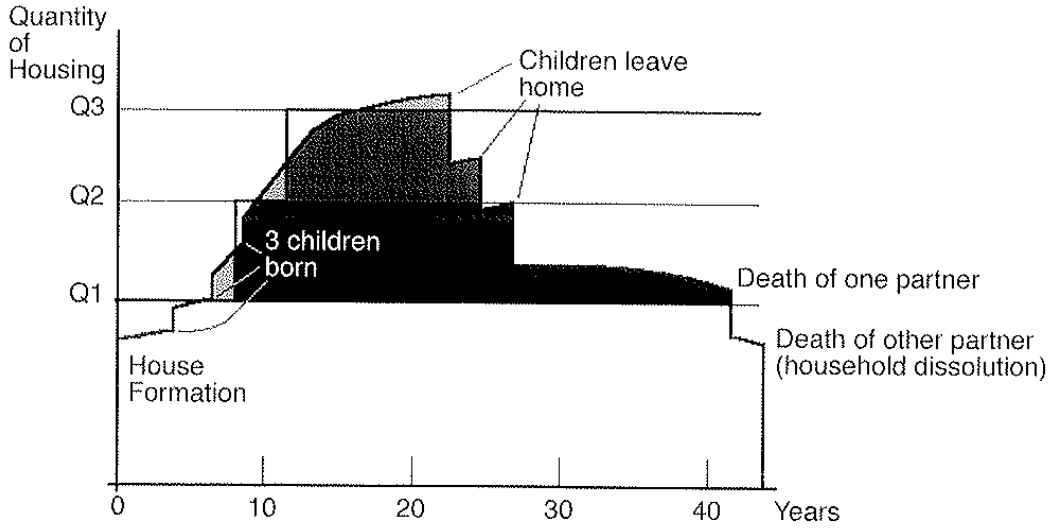

Figure 2.7 A model of housing consumption over time for a transformer household
(Source: Tipple, 2000: fig. 19, p. 115)

The current study also reveals the same phenomenon as Sueca's work. The pre-family stages in the case study consider buying a house at a lower price and commonly undertake work on an additional floor in anticipation of starting a family for more space; alternatively, higher quality facilities are acquired when their financial circumstances improve. In other words, housing adjustments are sometimes made in expectation of, not only in response to, a change in housing demands. This evidence is relevant to Seek's (1983) work. Many dwellers even save substantial costs by undertaking some or all of the improvement work themselves. Nevertheless, due to the patriarchal Balinese system, the newly married couples who have a right of inheritance in urban dwellings often consider together with their parents. This also happens to the next generation who obtain the same right. However, one interesting phenomenon is that the parents in low-cost housing will move into the house of origin in the hometown after retirement and spend the rest of their lives there. In contrast, where traditional houses are also the house of origin, parents do not move to another place and share the house with the inheritor for the rest of their lives.

Researchers in many countries describe the fact that, during occupation, a family use their house in a state of continual change with regards to the housing demands, which can be expected at different life cycle stages (Sueca, 2003; Tipple, 2000; Gosling, et al., 1993; Seek, 1983). Extensions and improvements are commonly carried out in the expanding stages of the family lifecycle, whereas alterations and renovations are more likely to be accomplished during the declining stages (Sueca, 2003).

The ultimate decision to undertake a housing adjustment is based on the outcome of a two part decision-making process: the first part is the decision to adjust house consumption, and the second is the choice between the option of moving or improving, or a combination of both. Dissatisfaction with the house is the main determinant of the tendency to move or improve. Decisions to improve the house are understood as the broader implications of the housing adjustment process (Seek, 1983:455). On the other hand, Morris, et al. (1976:309) argue that

moving from the previous house to another place is the other side of this adjustment. Improving the house is caused by a mismatch between the desired and the actual level of housing consumption; whereas propensity to move depends on the costs and benefits associated with each adjustment alternative (Seek, 1983:456). Harmon and Potepan (1988:476) explain *"adjustment costs are more important than other demand factors including income, in determining patterns of housing consumption."* Tipple (2000:25) adds that many families decide on house adjustment, either moving or extending, in order to tolerate the house stress. A new family selects and buys a small and cheaper house with the intention of extending it, immediately or in the short term, and most believe that the dwelling will be more valuable after the improvement. Improvements are commonly undertaken in response to changes in family size and economic circumstances, while expenditure on improvements is constrained by a household's income, wealth, and financial commitments. Additionally, Tipple (2000) also suggests that moving is much less possible in countries of the Global South than in the USA, Europe, or Australia, so the improvement (or extending) option is obviously chosen by the occupants.

Briefly, family growth, such as family size and family structure, is an important consideration for a household in order to anticipate increasing and decreasing housing demands. Every stage of family has different spatial requirements. In other words, during occupation, housing demands continually change and depend on family growth. In the context of Balinese houses, cultural reasons also play an important role here. Then, the tendency to improve the house is a preferable option for the occupants when a housing gap occurs. This is due to the face that this action incurs less cost compared to the other option of moving out.

2.3.6 Housing Adjustment: Family Behavioural Responses

Sinai's (2001:97) research in Kumasi, Ghana, reveals *"it is the nature of people to seek to better their lives when they can, sometimes by improving their housing conditions".* The relationship of a family to their house has long been thought of in terms of the concepts of adjustment and maladjustment. In 1955, Rossi developed the ideas of Riemer on maladjustment to the family home as a major theoretical advance in the social psychology of housing behaviour, stating that:

> *Housing needs are determined primarily by the composition of the household. Families change as they go through a life cycle of growth and decline... Housing needs change rapidly in (the) early years as space requirements quickly grow and as the family at the same time becomes more sensitive to the social and physical environment provided by the location of its dwelling.* (Rossi in Morris and Winter, 1975:79–80)

Rossi depended heavily on the concept of the family life cycle to organize his interpretation, and viewed housing needs as arising directly from the composition of the family. In other words, a changing family composition is directly responsible for changes in housing needs. Meanwhile, the theory of *housing adjustment* deals with "*how households think and behave in performing their housing behaviour"* (Morris and Winter in Steggell et al. 2003:7). This behaviour tends to occur whenever the house deviates far enough from the norms to reduce significantly *housing satisfaction*. Such a reduction occurs if a discrepancy is perceived that influences family satisfaction with their house (Morris and Winter, 1975:83).

When a family recognises a housing deficit, they display possible behavioural responses: residential mobility, residential adaptation, and family adaptation (Steggell et al., 2003; Seek, 1983; Morris and Winter, 1976, 1975). However, as Tipple (2000) suggested, *residential mobility* or moving a short distance is an uncommon response in the Global South, whereas *residential adaptation* refers to the various activities of families to ensure the house fits with their needs. Those include additions, alterations, remodelling, and changing the functions of rooms. The term *do-it-yourself* is a behavioural manifestation of residential adaptation (Morris and Winter, 1975:84). The families even make changes such as reducing needs, removing constraints, or re-allocating current resources (Sherman and Combs, 1997:72).

Family adaptation includes the actions of a family to alter its composition to fit the current or anticipated housing, and involves actions to do with childbearing, as well as the entrance or departure of a family member (Morris and Winter, 1975:85). Childbearing may be postponed in order to avoid potential overcrowding, while a large house might even serve to encourage childbearing and adding foster children to a family. Furthermore, encouraging ageing family members to return to their hometown after retirement or suggesting mature children live in separate places after getting married offers opportunities to obtain extra bedrooms.

In the current study, it has been found that residential adaptation and family adaptation are common family behavioural responses in order to adjust to the house. Physical improvement of the house aims to fit the occupants' needs. The households then choose family adaptation when the economic circumstance of the family does not allow improvement. Interestingly, adding foster children is one tendency of family adaptation for families without children. The patriarchal Balinese system enables these families to adopt a son with the purpose of maintaining the existence of the family tree in the inheritance system. Therefore, both adaptations are usual responses of urban dwellers in Denpasar to recognise the actual house while it currently does not fit with their needs.

2.4 Transforming the House: A Dynamic and Continual Process

> *Every house is a work in progress. It begins in the imagination of the people who built it and is gradually transformed, for better or worse, by the people who occupy it down through the years, decades, centuries. To tinker with a house is to commune with the people who lived in it before and to leave a message for those who will live in it later. Every house is a living museum of habitation and a monument to all the lives and aspirations that have flickered within it.* (Owens in Tipple, 2000:40)

The above quotation suggests that the occupants' desired level of improvements through transformation could increase or even decrease the quality of the house. A house represents the people who live in it and this is recognised from their domestic lives. The previous section discussed why the occupants behave in certain ways when performing their housing amendments; the following section explains housing transformation, which is not a new concept in the field of housing. This refers to changes and embraces the variables of physical house changes.

2.4.1 Occupant-Initiated Changes

The notion of housing transformation is concerned with how occupants have some input into their housing conditions. Habraken (1975:12) mentions that this manifests itself as the desire for possession, whereby a sense of belonging can truly be achieved. Tipple (2000:41), who researched government-built housing in the Global South, supports Habraken's view: *"the process of transformation of physical shelter is inevitable as a result from inhabitation or increasing the feeling of belonging"*. Brand (in Tipple, 2000:41) subsequently argues that *"this process is a highly dynamic process referred to by biologists as 'ecopoiesis' (home-making) or the process of a system making a home for itself".* Brand also demonstrates that buildings, which survive usually experience changes across their lifetime as their occupants change. The time dimension deserves to be given more attention in design to accommodate the flexibility of the occupants' needs.

Many scholars have attempted to define clearly the concept of housing transformation. In home adjustment theories, Morris and Winter (1975:84) introduce this concept via the term 'residential adaptation', which refers to physical house changes, including additional floors, alterations, remodelling, and changes to the use of space. From his study in the Global South, Tipple (1991) emphasises that transformation is a construction activity, excluding repainting, changing the design of doors and window frames, hanging curtains to divide rooms, changes in the use of spaces without any construction and the erection of bamboo-matting walls in Bangladesh. Tipple (1991:20) then identifies alterations as *"internal changes to the layout of the units without increasing the overall net floor area'*, whereas extensions are a *'built addition which adds at least one functional component per unit."* In other research in Egypt, Tipple and Wilkinson (1992) point out that gaining additional floor space is an important aspect of the extended house. The activity of altering and extending housing, then using that space for household accommodation or economic gain, could be seen as an expression of this demand.

With respect to Tipple's argument, Salama, who performed a study on public housing in Egypt, also addresses the concept of transformation:

> *As a result of the inappropriateness of public housing and its failure to respond to user needs, many families decided to take over their housing and started engaging in informal building activities inside the formal sector. This engagement was embodied through a variety of modifications and extensions – referred to as user transformations carried out in government built housing projects.* (Salama, 1998:32)

Additionally, Salama also categorizes various types of transformation, namely interior and exterior. Modification of interior walls, repositioning the doors and windows, and using curtains in order to change room size are regarded as interior transformation. Meanwhile, exterior transformations are carried out by closing up exposed balconies to create privacy, enlarging an existing room, adopting public open space for a room extension, and using the available building materials and technology.

Prior to Salama's study, Kellett et al. (1993:4) identify different types of transformation: *"involving change of space usage layout, physical alterations or modifications to the existing structure as well as extensions"*. Either an individual household or groups of neighbours initiated these changes. Meanwhile, Mirmoghtadaee (2009) specifies transformation terms of

physical and morphological changes. Physical changes include adding and repositioning doors and windows, creating additional floors, and amending the building's appearance. Changes in spatial arrangement, such as housing layout, the use of space and its proportions, are categorised as morphological changes. These changes systematically emphasize the importance of a compatible connection between the house's form and the occupants' lifestyles.

Ultimately, the investigations in this study were performed in relation to the above theoretical premises. Transformation may take place in urban dwellings in Denpasar for many reasons. As well as Salama (1998), Sueca (2003) also referred to the concept of housing transformation given by Tipple. Nevertheless, in this study, this concept is classified into four categories: *extension*, either vertical or horizontal, in which case this is highlighted as an *additional floor*; *physical alterations*, such as spatial rearrangement, adding or demolishing interior walls, repositioning windows and doors, changing the house perimeter, and shifting from one room to another. Other transformation methods are *remodelling* or *demolishing* of the existing housing structure and building new ones, and finally *changing the use of space,* which means that there is no physical transformation in terms of house layout, merely changes in the use of the existing space for other functions. Description of transformation activities is presented in Table 2.1. Thus, one important thing to be emphasised here is that the transformation process may not merely increase the quality of home, but may also gradually reduce it, as stated in Owens's quotation.

Table 2.1 The concept of transformation

Categories	Construction Activities
Extension	▪ **Vertical extension**: adding one or more storeys
	▪ **Horizontal extension**: gaining additional floor horizontally in the same building, adding compounds
Physical alteration	▪ Spatial rearrangement, adding or demolishing interior walls, repositioning windows and doors, changing the house perimeter, shifting from one room to another, erection of interior partitions, hanging curtains to divide room, repainting, changing the design of doors and window frames, adding exterior walls to balcony and veranda
Remodelling/demolishing	▪ Demolishing the existing house structure and rebuilding
Changing the use of space	▪ Changing the use of space without any construction or alterations to the house layout

2.4.2 Why Do the Occupants Make Changes?

Researchers in the housing field in the Global South reveal many motives for why people change their housing, which can take place in different housing typologies. Tipple (1991:53-60) outlines reasonable factors that contribute to self-help transformation activity in low-cost housing. A shortage of accommodation in the city and no suitable alternative accommodation are important factors in generating self-help transformation. Changes in desires and behaviour encourage people to fit with a new lifestyle and seek the quality of housing which could be available through transformation of the existing house. House ownership, stability of

residence, income, available space, and opportunity to sell at the end of occupation are other contributory factors that have driven occupants to undertake a process of housing change. For Tipple, transformation is a common phenomenon in the process of home-making.

Kellett et al. (1993:5-6) explain that *"the process of change results from the relationship between the dweller and the dwelling"*; therefore, there are some motives that encourage the occupants to transform the houses provided in direct response to a range of requirements. On the basis of evidence from Chile's social housing, some motives for changes were identified, such as the fact that the dwelling provided is incomplete, deficient or inadequate, or inappropriate for the context. Additionally, the level of the dwellers' requirements, and the aspirations and expectations of the occupants tend to rise over time. This is particularly characteristic of societies with market value concerns wherein people expect and aspire to an improved future. Income generating is also a motivating factor for improvement of the economic value of the house in the future, should the dweller decide to sell the property.

Nevertheless, Hacihasanoglu and Hacihasanoglu (2006) discover an interesting phenomenon in formal and informal housing in Sisli–Bomonti, Istanbul. Physical changes in those houses are total metamorphoses based mostly on cultural change processes. Although the physical or behavioural results of the cultural processes can be understood, it is also essential to be aware of how these factors affect the life styles of the people. Cultural changes act upon the physical environments as well as upon a house's spatial organisation; however, people cannot always change a house in accordance with their requirements.

Studies on Libyan and Iranian houses discuss different motivations. Abdalla (2007) highlights three major motives in owner-built houses in Benghazi, Libya, including the need for more habitable space to accommodate increases in family size, the need for more privacy, and the need for more increased security. On the other hand, Mirmoghtadaee (2009) realises that Iranians, who occupy contemporary houses during three different periods, physically and morphologically change the houses in terms of social, economic, and technological transformations. These changes take place simultaneously with social transformations, such as from patriarchal extended families to independent nuclear families. However, experience showed that lifestyle has not changed significantly.

Sueca's study (2003) reveals many of the reasons identified in the field. In general, the most important reason for extending the urban dwelling is the need for more space and more rooms to accommodate a household's domestic activities, express their belief system and values, and in anticipation of future expectations, such as generating family income, family growth, having a car, etc. The customary attachment of the Balinese to their place of origin plays an important role in deterring them from moving. The decision to improve rather than move could be expected to centre on loyalty to the physical and social environment, and the difficulty of finding an affordable alternative. Nonetheless, other reasons include economic motives, being loyal to the social and physical environment, providing adequate security, and improving the quality of the property.

With respect to the earlier discussions, housing should be viewed as an organic process of continual change for both the dwelling and the dweller. Actions by the dweller to improve the dwelling, so that it responds more precisely to changing needs, should be recognised as natural

and should be encouraged. Therefore, the current study investigates the factors that have driven the occupants to take some action in this organic process over ten years, with evidence from Sueca's works as a basis for comparison. From the above research, some of the motives identified by Kellett et al. (1993) could perhaps be relevant to this context. The characteristics of the housing changes in Denpasar may be analogous to what occurred in Chile. The occupants evaluate their houses in order to achieve the desired level, whereas the requirements of the occupants also simultaneously change over time. As Kellett et al. (1993) revealed, the changing aspirations and expectations of the occupants in the field are among the motives for extension.

Additionally, the transformation process will potentially have one of two outcomes: either better or worse quality of housing. Nevertheless, this study is more concerned with the effectiveness of the transformations which have been carried out. Tipple (2000) argues that one of main factors contributing to transformation is a shortage of accommodation, so the effect of a transformation includes providing more habitable space (domestic space for living, dining, and bedroom accommodation), and an increase in house size, house density, occupancy rates of households, and so on. Altas and Ozsoy (1997) carried out a comprehensive evaluation of habitation in housing in Istanbul, Turkey, that had been occupied by the dwellers for 16–20 years. This evaluation concluded that spatial adaptability and flexibility in the use of a room could be achieved through methods of transformation, so these can be used as a parameter of user satisfaction with housing quality. The percentage of improvements to habitable space show how effective transformers have been in comparison with the original provision.

2.4.3 Future Needs: Expectations and Anticipation

> *Apart from adjustment costs, the decision-maker also has to anticipate future changes in its housing requirements, since it is not expected to adjust frequently and because any housing decision made commits the household to a fixed quality of housing for some time.* (Seek, 1983:458)

Instead of being a full reflection of the current situation, housing transformation is a matter of a household's future expectations. Seek believes that people tend to avoid spending time, energy, financial resources and the physical and psychological disturbance caused by frequent building works while transforming their dwellings. Kellett et al. (1993) also accepted Seek's views. People expect and aspire to an improved future, as compared to the past. Those who were previously satisfied may now perceive their dwelling as not reflecting their higher aspirations and action may thus be taken to improve the dwelling, such as increasing the space, quality of materials, finishes and services.

In other words, short or long-term anticipations for family life influence the usual reasons for housing transformation. Such expectations may include the arrival of children, or their growing up, plans for the household (composition, owning goods or furniture, accommodating relatives, expectation of improving economic circumstances, carrying out some home-based enterprise, etc.) and anticipation of family guests who will sometimes stay overnight. Furthermore, as the career of the head of the household develops, expectations of better living conditions are common. Having a car, for example, may encourage people to build a garage. They may build a small shop for running some home-based enterprise. As their career

becomes more stable, they can expect a better income, and are possibly able to better calculate their future finances and prepare a strategy to cope with future circumstances.

Therefore, it is essential to understand that a house can be expected to provide a series of housing services for many years after the original household head has died. Many household heads regard their house as the only real asset that they can pass on to the next generation. Furthermore, many societies place responsibilities on one generation to give the next an especially good start in life (Tipple, 2000:46). Considerations concerning original family houses should therefore include any customary functions that may need to be conducted. A study of family houses in Ghana and Nigeria by Amole et al. (1993:357) discovered this phenomenon.

It is clear from the above argument that house size and design not only connect the past familiarities and future expectations of the occupants, but after transformation are also likely to reflect the current household's lives and anticipation of future needs. In this way, the needs of the inheritors become important to the house owner's decision-making process. This is often expressed in terms of a house to live in.

2.5 The Framework of the Investigation

As mentioned in the first chapter, this study is concerned with the nature of the interaction between occupants and Balinese urban dwellings in terms of the process of housing transformation in order to reveal the specific aspects of the occupants' socio-cultural lives through spatio-temporal order over ten years. For that reason, the relevant bodies of literature and themes from many subjects are employed as background knowledge and guidance for the fieldwork investigation: see Table 2.2. All relevant theoretical perspectives can be classified into three groups.

The first includes a series of theoretical international interpretations which reveal housing needs, housing gap, how the occupants respond to the unsatisfactory conditions of the house, and the difference between the house and the home and the many ways in which the concept of home can be expressed. These theories are important to the residents in the process of home-making and becoming at home.

The second is a group of housing transformation theories which shows how people amend their housing in order to accommodate their changing housing needs over time. The process of housing transformation is dynamic. There is a reason behind these actions because, like the occupants, the house also grows and experiences these processes. This group of theories is essential for the occupants in order to evaluate the house and connect the past expectations and familiarity with today's life and anticipated future needs (e.g. family growth, generating income, future expectations).

The final group includes the work of several key scholars within cultural and built-environments and studies the interrelation between domestic architecture and socio-cultural lives. Numerous aspects of culture and its dynamics are directly and indirectly involved in domestic life, spatial organisation, the meaning of home, cultural values and the Balinese belief

systems. All can usefully establish practical analytical preferences for enhancing our understanding of the ways that people interact with, perceive and interpret their houses.

Table 2.2 The framework of the investigation

Themes	Sub-themes	Issues
The occupants' history	Personal history	▪ Residential biography ▪ Family life-cycle or family story
Housing satisfaction	Housing gap	▪ Housing needs ▪ Housing stress
	Family behavioural responses	▪ Tendency to improve the house ▪ Family adaptation
	Home preferences	▪ Centrality ▪ Privacy ▪ Continuity ▪ Self-expression and personal identity ▪ Social relationship
The process of transformation	Reasons for changing and improvement	▪ Incompleteness, deficiency, and inadequacy of dwelling ▪ Inappropriateness for the context ▪ The requirements of the occupants change ▪ The aspirations and expectations of the occupants change ▪ Change in response to efforts to personalise the dwelling ▪ Changing the house in order to generate income
	Methods of transformation	▪ Vertical extension ▪ Horizontal extension ▪ Physical alteration ▪ Demolition/remodelling ▪ Changing the use of space
	Future needs and expectations	▪ Anticipation of future needs ▪ Accommodating family growth ▪ The house as a workplace
Socio-cultural setting	Religious activities	▪ Daily worship and praying for festivities ▪ Occasional ceremonies
	Daily activities	▪ Cooking and eating ▪ Sleeping arrangements ▪ Social interactions and leisure
	Hierarchy of spaces and orientation	▪ Hierarchy of ordered space ▪ The cardinal orientations ▪ House orientation
	Sacred and profane spaces	▪ Spatial layout ▪ Functions of each compound
	Home and identity	▪ Meaning of home ▪ Home as symbol of identity and social status
	Cultural values and belief systems	▪ Pattern of rituals and beliefs ▪ Influences of rituals and beliefs on living conditions

This study ultimately provides an understanding of the interconnection between occupants and urban dwellings in terms of the process of housing transformation from a spatio-temporal perspective. Within this connection, groups of theories in the area of EBS are explored. These bodies of literature provide a direction from which to investigate the process of housing transformation. The entire group of theories together gives rise to a more comprehensive understanding of the nature of the relationship between dwelling and occupant. It also helps to construct the conceptual framework of the study.

chapter 3

Methodology and Research Design

Chapter 3. Methodology and Research Design

I stood in silence with my head bowed, then walked away from the house slowly. It was the fourth house that I had visited today. No one trusted me, though showing a formal permission letter. What was wrong? Some supposed me an unwanted one who was either asking for a donation or promoting some products. Some even looked at me with suspicion. That was a hard time.

In the night, while watching a half-moon from the front veranda, I reflected on the day and thought of how to win their hearts... Then, five minutes later... Aha!!! I got it!!! Building a good relationship is the answer, but how should I do it? Hmm… be kind and well-mannered… keep a low profile, show seriousness and respect, so they will trust and help you voluntarily. At the end of the session, do not forget to present them with a memento to express gratitude…

(Field notes, 2 August 2011, 9:35 pm)

Methodology and Research Design

Preparing the Research Plan

Prior to designing the research plan, the research gap between Sueca's study (2003) and the current study (2014) was clearly defined in order to avoid replication. At this point, the importance of the originality of the idea was given the greatest consideration. The previous study focused on the characteristics of households, but made little exploration of socio-cultural issues, in particular the complexity of the interactions between urban dwellings and the occupants. One point of Sueca's study concludes that socio-cultural factors are some of the predominant factors which determine why housing transformation occurs. Therefore, historical data are needed to create a baseline for the current investigation, which centres on exploration of the possibility of obtaining relevant principles and lessons from those interactions from evidence.

The fieldwork was designed to select those previous cases from Sueca's work that should be revisited, as they represent significant phenomena in support of the analytical parts of this research. Then, analysis and interpretation will be carried out to answer the research questions. For this purpose, the framework of investigation is divided into two main themes: 1) the nature of the interactions between the occupants and urban dwellings in the process of transformation, and 2) the process of transformation, as it articulates specific aspects of the

socio-cultural lives of the occupants. This framework is restated, in the form of conceptual definitions, in order to present the connection between these themes and issues and the methodology. In subsequent sections, the process of inquiry, strategies for accessing the cases studied, techniques used to collect the data, and strategies for the analysis and interpretation of evidence will be clarified and elaborated upon.

At the same time, starting the research plan requires an understanding of the points of difference between the methodology and the research design. Silverman (2006:13-15) defines methodology as *"a general approach to study research topics*." Methodology refers to the choices of researchers in order to make the cases to be studied. It covers methods of collecting data and of analysing field data, both in the planning and executing of a research study. This means that methodology refers to how one will go about studying any given phenomenon. In social sciences, methodologies may be defined very broadly or more narrowly.

Meanwhile, a logical link is required to connect the data collected and the conclusions drawn through coherent initial research questions (Yin, 2014:28; Rowley, 2002:18). Research consists of two major stages: the first is the planning stage, and the next is the stage of execution. During the first stage, the researcher constructs a research plan, while the collection and analysis of data are undertaken in the second stage (Sarantakos, 2005:105). The *research design* is a logical sequence that connects empirical data to a study's initial research questions and its conclusions. For that reason, a research design was created for the present study as an action plan for getting from the research questions to the conclusions. The research design presents a comprehensive perspective on what is to be achieved by this study, so that it is capable of engaging with and defining the fundamental components of the inquiry.

As with all theories, there is no right or wrong methodology or research design. However, one indicator that can be measured is the strength and usefulness of the design for the research topic. This chapter primarily describes the research plan and the process of fieldwork therein.

3.1 The Nature of Methodology: the Process of Inquiry

Methodology occupies a central position in the research process. To this end, an appropriate research strategy was prepared and this informed subsequent research activities. It aimed to set out the methodological position of this study. The following section explains how the study was conducted.

3.1.1 Organising Qualitative Research

Qualitative inquiry is a research strategy that underlines connections and uses words rather than numbers in collecting and analysing data (Bryman, 2012:380). This form of inquiry is especially powerful as a source of *grounded theory* that emerges from a researcher's observations and interviews in the real world. In other words, grounded theory is developed inductively from fieldwork (Silverman, 2010:110; Patton, 2002:11). In this way, the theory provides both a framework for critical understanding of particular phenomena and a basis for

considering how the unknown might be organised. Without a theory, a phenomenon cannot be understood.

As described in the rationale presented in Section 1.1.4, this study revisited urban Balinese who have transformed their housing. It highlights how the socio-cultural dynamics of the occupants could order and articulate the process of housing transformation and its changes over time. By approaching this through cases previously studied, or settings embedded in a real-life context, however, this study achieves much more than simply studying this phenomenon in the field; it potentially involves the complex dynamics of this phenomenon and its interactions. Evidence from fieldwork, therefore, can develop relevant theory (Stake, 2005:447-448; Eisenhardt, 1989:536). This study relies greatly upon empirical data that are mainly gained from in-depth interviews and observations. The predominant questions are not only questions of opinion or feeling, but also aspirations and future expectations. The answers naturally include the descriptions, interpretations, opinions and feelings of the occupants. Thus, the power of words plays an important role here.

Inductive analysis is one of the principal characteristics of qualitative inquiry (Silverman, 2010; Stake, 2005; Patton, 2002) and this analysis is used throughout the current study in order to establish the main arguments and link the empirical findings to theories or explanations of how the phenomenon naturally works. It involves the discovery of themes and issues. Interviews are usually analysed in-depth in order to determine the analytical framework. Moreover, Patton (2002:453) emphasises that content analysis aims to reduce the amount of qualitative data in order to identify core consistencies and meanings. In this study, the theoretical framework has shaped the defining themes and sub-themes. This reduces the fieldwork data so that it remains consistent with and relevant to the research topic.

3.1.2 Choosing a Strategic Approach: the Naturalistic Paradigm

In scientific methodology, a strategic approach to methods of decision-making is defined as a *paradigm* (Shadish, 1995). A paradigm, as Patton (2002:69) discusses, is a way of thinking or a worldview that informs us of the importance, legitimacy and valuable aspects of the phenomenon to be studied, as well as its complexities. Additionally, Lincoln and Guba (1985:15) describe this term as a systematic set of beliefs or ideas, including its methods. Another theorist, Kuhn (1970), believes that a paradigm provides *'a way of looking at the world, including the assumptions, rules, direction, and criteria by which ordinary science is carried out.'* Bryman (2012:605) also adds that a paradigm is a set of ideas in a particular order with regard to the process of inquiry, from investigation to interpretation. Briefly, it can be understood that a paradigm is a set of ideas used to lead inquiry or evaluation activities. According to Guba and Lincoln (1981:55), two paradigms have emerged as the most widely used and this part opens with a discussion of those two schools of thought: *positivistic*, which is the prevailing scientific method, and *naturalistic*, a method that developed subsequently.

Reese (1980:450, as cited by Lincoln and Guba, 1985:19), defines the positivistic paradigm as a family of philosophies characterized by an extremely positive evaluation of science and scientific methods. Lincoln and Guba (1985) develop this definition as an epistemological position, whereby the positivistic paradigm treats social facts as existing independently of the

activities of both participants and researcher. For positivists, the aim is to generate data which are valid and reliable, independently of the research setting (Silverman, 2010:437; Bryman, 2008:13).

The naturalistic paradigm, however, describes how the content of everyday lives offers deep insights into the '*what*?' of reality at the expense of the *'how?'* by both participants and researcher, so this paradigm presents research questions, though it has no definitive hypotheses (Gubrium and Holstein, 1997:102; Erlandson, et al., 1993:67). Naturalists need to plan for anticipated circumstances, but they will deal with how the contexts of time, place, and more importantly, human interactions are understood (Lincoln and Guba, 1985:226).

For the purposes of this research, a naturalistic inquiry was undertaken for several reasons. Firstly, this choice was made in reference to the rationale and research questions. A qualitative inquiry was conducted by using this paradigm as the research took place in a real-world setting and investigated the interaction between the dynamics of the socio-cultural lives of the occupants and the process of housing transformation. This interaction was revealed naturally, without manipulation or control, and was open to whatever emerged. It had no predetermined course established by or for the researcher, such as would occur in a controlled environment. Observations took place in real-world settings and the occupants were interviewed with open-ended questions in places and under conditions that were comfortable and familiar to the interviewees. Guba's (1978) definition of the naturalistic inquiry that inspired the *discovery-oriented* approach of this research, in order to minimize intervention in the study setting and places.

Secondly, the dynamic process of housing transformation and the socio-cultural lives of the occupants relate to behavioural systems. These systems refer to people and activities; indeed, Rapoport (1995) observed that activities are influenced by culture. Activities within the scope of culture do not just imply propositional knowledge, but also involve tacit knowledge, which refers to information which is almost impossible to obtain through the rationalist, scientific approach, because this approach is only able to explain propositional knowledge (Guba and Lincoln, 1981). Therefore, the dynamic process mentioned above cannot be completed without knowing how the occupants experienced the housing changes. It is necessary to know how the housing transformation process affects specific aspects of the socio-cultural lives of the occupants, including the nature of the interactions between the occupants and their houses during the transformation process. The reordering of the socio-cultural elements relates to the behavioural systems of the occupants. In this case, only a naturalistic paradigm can empower the researcher to understand this interaction.

Thirdly, housing transformation is a complex mix of various phenomena that interplay with many relevant variables, such as domestic space and physical conditions, socio-cultural domains, and the behavioural systems of the occupants. This transformation cannot be seen as a single entity, but involves many realities and entities. In this study, an understanding of these interactions has been achieved by engaging directly with the many relevant variables in the field survey. Data were obtained from surveys and were analysed in order to answer the research questions. These research activities are compatible with a naturalistic paradigm through combining the assumptions of the researcher, the occupants as respondents, and the relevant informants. The reasons above allow the argument that this study can be categorised

as exploratory qualitative research with an inductive approach that emphasises the process habitation by the occupants in their houses, rather than the house as a product in itself. No hypothesis is stated in advance; there are no set variables and no restrictions in the final findings.

3.1.3 Determining the Research Strategy: Why Use Case Studies?

The selection of a research approach is very important as a representation of the nature of the research problem. Indeed, Nguluma (2003:68) points out that an inappropriately selected strategy may affect the quality of the data collected. Numerous aspects, such as research questions and objectives, the nature of data requirements, and the availability of resources, determine choosing a strategy.

The most significant aspect in determining an appropriate research approach is the type of research question (Rowley, 2002:16). Research questions that focus on *who*, *what*, and *where* are investigated through archival analysis, documents, manuscripts and surveys, whereas the case study is commonly applied as a research strategy with the purpose of deeper and more detailed investigation. It is normally used to answer *how* and *why* questions.

The most challenging aspect of implementing a case study into research lies in developing the investigation from an explanation of *what happens* into a coherent discussion of an argument (Yin, 2014; Groat, 2002). A case study implements a process of inquiry about a particular case and its products. Moreover, the case has a specific character, enclosed system and uniqueness, which discloses the greater values of the rationale (Stake, 2005:444-445). Therefore, in the process of studying a given phenomenon, cases are important to a researcher. Understanding the research problems is necessary to the researcher as an active agent within the process of investigation.

The reordering of the constructed house was tracked by revisiting cases from Sueca's earlier study. It was necessary to keep in mind the research questions in order to maintain propositions for the study and to approach the study in an unbiased way. The decision to employ a case study approach as a research strategy for collecting data allows an explanation of the changes over ten years, both in terms of the situation of the house and of the dynamics of the socio-cultural lives of the occupants. Using *how* questions indicate problem definitions that will be sought, described, and explored. In this way, the case study method is considered to provide more findings which concern real-life housing phenomena. Inevitably, this requires an in-depth understanding of this phenomenon, including the relevant contextual variables.

An exploratory explanation describes the dynamic process of house life in order to reconstruct the socio-cultural elements of the house. Evidence from fieldwork then supports this explanation. The focus is on a combination of descriptive and exploratory explanations which provide an understanding of the phenomena being studied. For this purpose, the case study approach allows a combination of methods of data collection. The evidence produced is qualitative data, which reflect the real lives of the inhabitants of the urban dwellings behaviourally, spatially, and physically with regard to tracing changes over time.

3.2 Setting the Research Methods: Ways to Get Closer

Silverman (2006:15) states that *research methods* are specific research techniques. Although techniques cannot be classified as either correct or incorrect, they can all produce results which are either relevant or irrelevant to the questions under investigation. This depends upon their appropriateness in terms of relevant literature and applied methodologies or research topics. The research design of a qualitative study aims to identify what settings to investigate, how and when, which actors to approach, which processes to consider, and which instruments to employ (Benini, 2000). Accordingly, this sub-chapter describes the setting of the research methods in order to examine the case studies in depth.

3.2.1 Building Trust: How to Win the Heart

When I arrived in Bali, it was during a long holiday period: the local government had established two weeks of holiday for the Balinese Hindu festivities. Such local holidays are intended to provide an opportunity for preparations in the series of two *rahinan* (festivals) of *Galungan*[1] and *Kuningan*[2], as I wrote in my two-week report to my supervisors:

> *During the holidays, I was not able to collect the data effectively as I had planned on the schedule. That time was for discussion and conversation with the relevant experts. Owing to celebratory festivities in their hometown, they could only provide time after two weeks of holiday. Meanwhile, just as they did, I also went to my hometown in Jembrana, West Bali, to take a part in celebrations in the family temple.*
>
> Email to Kellett and Tipple, 24 July 2011

Nevertheless, a few days before the *Galungan*, I carried out pre-observations in the research locations of low-cost housing. During these observations, it was also noted that ritual activities formed a part of the series of festivities. Some families allowed the observation of celebratory preparations in their houses. Then, a further pre-observation was conducted prior to another festival in a research area of traditional dwelling. This took more time because these houses are wider than low-cost housing and at least five times bigger than the smaller houses. Only a few changes in these houses were noted; these were generally changes in the use of space, rather than changes such as additional compounds.

I believed that winning the interviewees' hearts and trust was of primary importance when entering the location. Additionally, after the Bali bombings of 2002 and 2005, the Balinese who live in urban areas (mainly in Denpasar) have become a sceptical society, with their friendly and hospitable character becoming closed and unfriendly. These humanitarian tragedies have changed common Balinese psychological characteristics. As a result, the main challenge for this research was how to overcome their suspicions. Furthermore, having grown up in a family of mixed-cultures and religions, I do not have the typical Balinese expression or accent. At first

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1 The greater celebratory festival of the Balinese Hindus to appreciate the victory of *Dharma* (goodness) against *Adharma* (badness): see Glossary.

2 The end of the *Galungan* festival is celebrated over two weeks. Both festivities have an atmosphere of the celebratory spiritual journey of Balinese Hindus in both microcosms (the souls and minds of humans) and macrocosms (the universe): see Glossary.

glance, they did not expect me to be a Balinese Hindu. Thus, it was a challenging experience indeed.

Building trust was approached in two steps. Firstly, in order to obtain permission from the local authority, it was necessary to contact the *kelihan banjar,* or customary leader, where the research areas were located. The Balinese have close relationships, which are organised within customary groups, in which each group has a local authority and physical territory. Close-knit social groups are a feature of this community, in both urban and rural areas, and respect for these social groups is important. *Kelihan banjar* have authorities which select the visitors who are able to visit those areas. A letter of introduction from the university was needed to confirm my identity and explain the purpose of the research. A short explanation of the research was thus provided in order to overcome their suspicions. All of the above required a negotiation with the *kelihan banjar* as gatekeepers. They presented the rules and conditions for how the researcher must go about playing the role of observer and how that role is defined as the occupants are observed. I asked them for a short letter to confirm that *kelihan banjar* had allowed me to carry out research activities in their authority area.

The second step was to approach personally the interviewees. Obviously, this step was harder than the first one. A good relationship between interviewer and interviewee is essential to gain the information needed. In Balinese culture, speaking the proper language, either the Balinese language or Bahasa Indonesia, is very important in order to express identity. Using kind words, and well-mannered behaviour, and not offending the interviewees all helped to build a good relationship. Furthermore, during the investigation, I wore the semi-customary cloth to show respect to the interviewees. This cloth is commonly worn during preparations for traditional ceremonial occasions. At the very least, wearing this cloth could represent the appreciation of the researcher to create a good relationship and mutual trust between interviewer and interviewees. Despite this however, numerous occupants refused to be respondents for several reasons. In these cases, other interviewees were approached instead as it is essential for the respondents in this study to have contributed voluntarily.

At the end of the investigation, gratitude was expressed to the respondents by giving the interviewees a memento. A unique handmade memento with a 'thank you' card was chosen: a multifunctional basket which could be used as a small container for several purposes or merely as an ornament on the table: see Figure 3.1.

3.2.2 Carrying Out Pre-observations: Getting a Sense of Place

As mentioned in Section 1.1.4, in 2001, Sueca (2003) investigated cases in two stages to obtain primary data with different instruments. Firstly, quantitative data based on 166 questionnaires were acquired, which included but was not limited to information on household characteristics, socio-economic circumstances, housing conditions and extension activities. Secondly, qualitative data were collected through structured interviews on topics, such as the inhabitants' perceptions about the housing transformations undertaken, the processes and effects of those phenomena, and related issues. Physical mapping, observation, photographs, and sketches were also employed to record findings on the spatial and physical aspects of houses, for instance house plans, the use of space and its size (e.g. habitable space).

Figure 3.1 The multifunctional basket was a memento for interviewees

After checking the original datasets, a pre-observation was carried out to give a preliminary picture of the real situation. These datasets consisted of research locations, sample data (name, address), and samples of house plans. The first step in the pre-observation was *walking around*. Rapoport and Hardie (1991:53) explain that a pre-observation supports the researcher by providing a sense of place and the chance to become familiar with the research context. This activity aims to aid the researcher in acclimatising to the environment gradually, though difficulties were encountered when searching for some traditional dwellings in *Banjar Kaja, Desa Adat Sesetan, South Denpasar*, primarily when accessing houses in narrow alleys by motorbike or on foot. It was very challenging to find them. In contrast, the locations of low-cost housing are in planned settlements; these research areas tend to be easily recognised, on both a map and the ground. Through pre-observation, it was possible to recognise the house forms and roughly classify the degree of transformation in order to assess the potential of these houses as a research sample.

The second step was to decide which houses could be selected for inclusion as appropriate research cases. The most important selection criterion was that cases should show evidence of a dynamic transformation process. This required the identification of physical, behavioural, and spatial settings. Those cases would be considered as representative samples of each location. In this stage, it was possible to identify 49 urban dwellings that were feasible to revisit.

3.2.3 Discussions and Conversations: Developing the Ideas

Discussions and conversations with relevant experts and researchers were conducted in order to clarify the research questions and objectives. Additionally, discussions with community leaders aided development of the conceptual definitions. Several issues were explored through this activity, including cultural values, urban housing transformation issues, socio-cultural change, and spatial arrangement in Balinese houses. From these activities, five issues related to the research focus were discovered, namely: life-cycle events that can drive housing consumption, seeking a new identity through housing transformation, the trend of shelters becoming homes, and the repositioning of sacred and profane areas. All of these issues could be considered to be main and sub-issues within the frame of the interview guidelines: see Appendix A.

Due to the fact that understanding the original datasets was necessary as an initial step prior to entering the real context of this research, a separate and lengthy discussion was held with Ngakan Putu Sueca, the researcher who had conducted the earlier study. Other relevant subjects followed from this, such as the issues that might be developed in this study concerning the interconnection between socio-cultural change and housing. This long discussion was a potential source of raw input that could enhance the interview guidelines.

Discussions and conversations are valuable and support activities for the development of ideas. After these dialogues, and prior to the fieldwork, a set of a survey guidelines were devised which were compiled with regard to the literature review and the original datasets. However, some further information emerged from the pre-observations and discussions with relevant experts which was used to enrich and improve the guidelines. A set of instructions preceded the discussions and conversations, so it was easier to guide discussion of the topics. A digital voice recorder was also used. Both activities were carried out within a friendly atmosphere. The discussions were arranged either on non-workdays or at the weekend, depending upon the time available. At the end of this activity, in order to express gratitude, the interviewees were presented with a wooden box of name cards as a memento: see Figure 3.2.

3.2.4 Institutional Surveying: Seeking Supporting Data

Institutional surveys were done in order to seek relevant supporting data. These surveys were conducted in three institutions: the Statistical Bureau of Bali, the Public Works Office, and Indonesian Real Estate of Bali. Data from the Statistical Bureau of Bali was sought in order to obtain demographical data, socio-economic profiles, and other relevant information. Then, housing issues (both nationally and locally), architectural standards for housing and settlements, and housing policies were researched at the Public Works Office. Some supporting data, such as design guidelines for low-cost housing, significant issues, and aspects of housing provision were found in the Indonesian Real Estate of Bali, an association of private developers and property companies.

As well as these institutions, supporting data were gathered from two libraries at the Udayana University, namely the Architecture Department and the Anthropology Studies. The information sourced there was specifically about Balinese culture and its transitions, related

research on Balinese houses and their transformation, and the concepts of traditional Balinese architecture.

Figure 3.2 The wooden box of name cards was a memento for the researchers and experts

3.2.5 Engaging Conceptual Definitions within Field Survey Approaches

Prior to conducting a field survey, the research objectives needed to be clarified and the main research questions focused. Subsequently, conceptual definitions were shaped during the period of the field survey. A research framework was established using two tabular forms of conceptual definition: 1) the nature of the interaction between the occupants and urban dwellings upon the process of transformation; and 2) the specific aspects of the socio-cultural lives of the occupants highlighted by the process of transformation: see Table 3.1 and 3.2. These conceptual definitions were derived from the literature review and were enhanced by ideas that came from the surveys.

Table 3.1 shows the first conceptual definition, which concerns profound themes related to the nature of the interaction between the occupants and the urban dwellings by means of the process of transformation. It consists of five variables: 1) the history of the occupant(s), 2) housing satisfaction, 3) transformation of the house, 4) home quality, and 5) future needs and expectations. Each theme is also accompanied by a range of variables, which are detailed in the second column and which connect to the field survey activities used in the third column.

Table 3.1 The first conceptual definitions, themes and variables within the field survey approach

Themes	Variables	Fieldwork Activities
The nature of the interactions between the occupants and urban dwellings in the process of transformation		
The occupants' history	Personal history ▪ Residential biography ▪ Family life-cycle or family story	▪ In-depth interviews (story-telling technique)
	Informal social institutions ▪ Network of kinship and neighbourhood	
	Economic sustenance ▪ Family financial constraints ▪ Home as a workplace	▪ In-depth interviews (story-telling technique) ▪ Observation ▪ Photographic record
Housing satisfaction	Housing gap ▪ Housing needs ▪ Housing stress	▪ In-depth interviews (story-telling technique) ▪ Discussions ▪ Observation
	Decision to improve the house or not ▪ Propensity for moving ▪ Tendency to improve	
	Constraints on the occupants' choice ▪ Cultural reasons ▪ Finances and affordability ▪ Building regulations	
Transformation of the house	Reasons for changes and improvement ▪ Incompleteness, deficiency, and inadequacy of dwelling ▪ Inappropriateness for the context ▪ The requirements of the occupants ▪ The aspirations and expectations of the occupants' changes ▪ Change in response to efforts to personalise the dwelling ▪ Changing the house in order to generate income	▪ In-depth interviews (story-telling technique) ▪ Discussion ▪ Observation ▪ Photographic record
	Methods of transformation ▪ Vertical extension ▪ Horizontal extension ▪ Physical alteration ▪ Demolition/remodelling ▪ Changing the use of space	▪ In-depth interviews (story-telling technique) ▪ Physical mapping ▪ Observation ▪ Photographic record
	Effects of transformation ▪ Increase in housing space: housing size, habitable spaces and proportions ▪ Adaptability and flexibility of use	
Home quality	What makes a house a home? ▪ Centrality ▪ Privacy ▪ Continuity ▪ Self-expression and personal identity ▪ Social relationship	▪ In-depth interviews (story-telling technique) ▪ Physical mapping ▪ Observation ▪ Photographic record
	Reasons to live in the current house ▪ House values ▪ Buying capacity of the occupants	▪ In-depth interviews (story-telling technique)
Future needs and expectations	Opinions on an ideal house ▪ Ideas of having a dream house	▪ In-depth interviews (story-telling technique)
	Will the house continually change? ▪ Anticipated future needs ▪ Accommodating the family growth ▪ House as a workplace	▪ In-depth interviews (story-telling technique)

Table 3.2 lists the second conceptual definition, which focuses on the process of transformation that demonstrates specific aspects of the socio-cultural lives of the occupants. It comprises three variables: 1) domestic life, 2) inhabiting socio-cultural settings and spatial order, and 3) hybridisation to form a new identity. A similar process as those in Table 3.1 defined the relevant themes and variables in Table 3.2. Each theme was developed with a series of relevant variables. This conceptual definition involves both my own interpretations of the housing transformation process and specific aspects of the socio-cultural lives of the occupants, as well as how these aspects directly influence domestic spaces, how they order these aspects, and which of these aspects are essential to the identity of the Balinese.

3.2.6 Why Select that House?

In order to reach the sample target, the field survey used purposive sampling. This sampling technique allows the selection of cases which show some interesting processes through exploring numerous areas of rich information (Denzin and Lincoln, 2005; Patton, 2002). As Denzin and Lincoln (2005:202) point out, many qualitative researchers purposively employ particular sampling methods; then they seek out groups, settings, and individuals where the processes to be studied are most likely to occur. The sample cases then need to fulfil the selected criteria. Several basic considerations were used to select the samples used in this research, based upon the research questions and objectives. The criteria included the following:

1. There should have been a dynamic transformation process evident at the dwelling units available. This most important criterion determines why a house could be a representative sample case.

   This refers to definitions of transformation. Tipple uses the terms *alteration* and *extension*, or *transformation for the activities*, and *transformer* for those who conduct the transformation(s) (Tipple, 1991; Tipple and Wilkinson, 1991). Furthermore, Tipple (1991:4) defines transformation as an alteration or extension involving construction activity and using materials and technology in use in the locality. For him, *additional floor area* is an important aspect of extension, regardless of the quality of the materials used. Additionally, Kellett, Toro, and Haramoto (1993:4) identify different types of housing changes that may involve change of space usage and layout, physical alterations or modifications to the existing structure, as well as extensions or an increase in size.

   From the pre-observations, it was also found that remodelling or demolishing has become a common transformation method for occupants due to the expansion of family income. Therefore, a dynamic transformation of the cases was determined through considering both the definitions given above and field experiences. In addition, the following were combined as indicators of housing changes: horizontal extension, vertical extension, physical alteration, remodelling or demolishing, and changing the use of space.

   In the field, prior to making the selection, the samples available from 2001 to 2011 were compared in order to identify a dynamic transformation process. It was hoped that the more dynamic the housing changes were, the richer the information available for exploration might be.

Table 3.2 The second conceptual definitions, themes and variables within the field survey approach

Themes	Variables	Fieldwork Activities
The process of transformation articulates specific aspects of the socio-cultural lives of the occupants		
Domestic life	Religious activities ▪ Daily rituals and praying for festivities ▪ Preparation of offerings ▪ Traditional ceremonies	▪ In-depth interviews (story-telling technique) ▪ Physical mapping ▪ Observation ▪ Photographic record
	Daily activities ▪ Cooking and eating ▪ Sleeping arrangements ▪ Social interactions and leisure	
Inhabiting the socio-cultural settings and spatial order	Hierarchy of spaces and orientation ▪ Hierarchy of ordered space ▪ The cardinal orientations ▪ Influence of the sacredness direction on the sleeping position ▪ Existence of hierarchy spaces ▪ House orientation ▪ Importance of the different levels in the house's yard	▪ In-depth interviews (story-telling technique) ▪ Physical mapping ▪ Observation ▪ Photographic record
	Sacred and profane spaces ▪ Spatial layout ▪ Importance of *natah* ▪ Sacredness of *bale daja* ▪ Function of *lumbung* or *jineng* ▪ Sacredness of *paon*	
	Home making ▪ Social acceptance and personal status ▪ Filling the space with things ▪ Home sanctification	
	Physical conditions ▪ Built form ▪ Building appearance and image ▪ Building materials and ornaments	
	Cultural values and belief system ▪ Pattern of rituals and beliefs ▪ Importance of ritual for religious ceremonies ▪ Reasons for restructuring sacred space ▪ Position and location of such spaces and meanings ▪ Influences of rituals and beliefs on living conditions ▪ Balinese patriarchal system ▪ Influences of ritual and family circumstance	
	Social-cultural influences on use of space ▪ Age, gender, and territory ▪ Hierarchy of living relationships	▪ In-depth interviews (story-telling technique) ▪ Observation
Hybridisation towards a new identity	From extended to nuclear family ▪ Family structure	▪ In-depth interviews (story-telling technique) ▪ Observation
	From a shelter to becoming a home ▪ Symbolic meaning of the house ▪ Traditional customary institution	
	The role of the house of origin ▪ Family house ▪ House as a satellite ▪ Inheritance system	

2. The occupants should be Balinese Hindus and available as an intentional sample, so the researcher can easily access the houses, and the occupants should be available for interview in order to obtain qualitative data. The agreement must be open and have been obtained without coercion. This relates to Christian's idea (2005:144–145) that one of the social science research codes of ethics is informed consent. Within this condition, the occupants as respondents must voluntarily agree to participate, without psychological or physiological pressure.
3. Traditional dwellings should be a traditional house or the extended part of one.
4. The houses should provide a clue to the respondents' representativeness in terms of socio-cultural circumstances, dwelling type, scale of transformation, and so on.

Eisenhardt (1989:536) states that the selection of cases is an important aspect of building or generating theory from case studies. The selection of appropriate cases in this study controlled unrelated variations and helped to define the limits for generalising the findings. In accordance with the basic considerations, this study picked 35 houses from 49 that had potential for in-depth revisiting. These houses were only accessible during the period of fieldwork and fulfilled all of the relevant criteria. Observations in traditional houses require more time as these have a larger area and many pavilions. In all, 20 low-cost houses and 15 traditional houses were explored. These 35 cases represent the sample described as *urban dwelling*. These areas and samples are detailed in Table 3.3.

Table 3.3 The samples size of Sueca's study (2001) and the current research (2011)

Urban Dwellings	The Previous Study (Sueca, 2001)			The Current Study (2011)	
	Plot size (m^2)	Population (households)	Sample size (households)	Pre-observation (houses)	Revisited (houses)
Traditional houses					
Banjar Kaja (Desa Adat Sesetan, South Denpasar)	-	**475**	**76**	**18**	**15**
Low-cost housing					
Permata Anyar	21-45 m^2	300	47	17	12
Pesona Pancoran	36 m^2	33	14	5	3
Graha Pesona	36-54 m^2	46	29	9	5
		376	**90**	**31**	**20**
Total (urban dwellings)		**854**	**166**	**49**	**35**

3.2.7 Survey Guidelines: Prior to Selection of the Cases

Survey guidelines were required to lead the data collection in the field. The purpose of guidelines is to obtain good quality data and organise all survey activities during the investigation. A set of survey guidelines were arranged according to the two conceptual definitions, field survey approaches, specific sample criteria, and the selected cases. The process of this arrangement is presented in Figure 3.3.

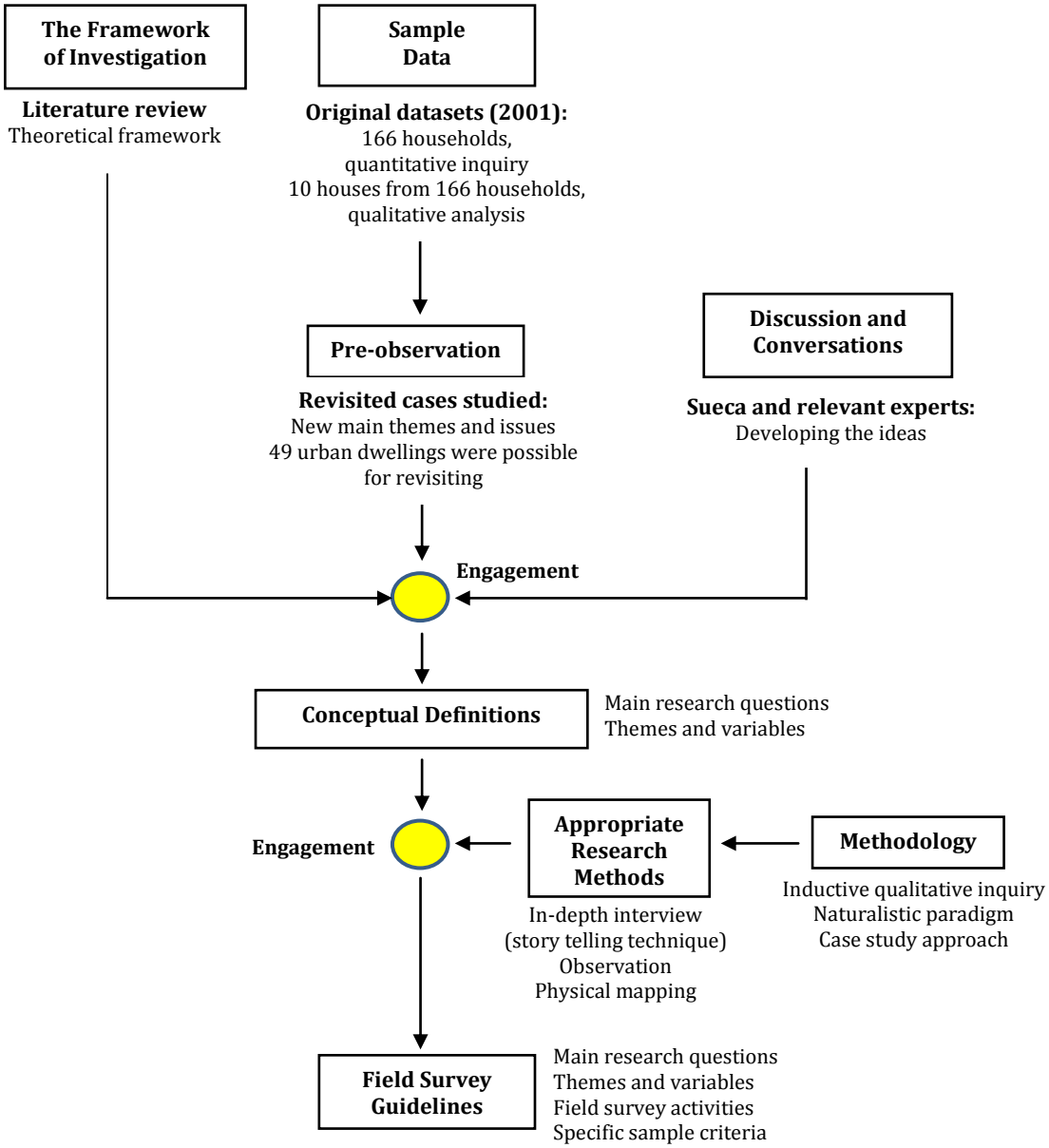

Figure 3.3 The process of arrangements of the field survey guidelines

3.2.8 Seeing, Listening, and Recording: Bringing it all Together

Data for qualitative analysis typically comes from fieldwork that commonly applies more than one single method or technique. Patton (2002:306) believes that there is no single source which can be trusted to provide a comprehensive perspective in a study. Moreover, the use of the case study as a research strategy shows the complexity of the issues involved, which can be revealed by qualitative interviews in order to explore potential opinions and experiences or to make a link between discussion and experience (Silverman, 2006:114; Patton, 2002:4; Hammersley, 1992:225). For the above reasons, through combining qualitative interviews, observations, physical mapping and photographs, different data sources were used to validate

and cross check the findings. Additionally, time was initially spent in settings or situations where cases could be observed and the respondents interviewed. There was also a focus on flexible questions in the interviews in order to get a more considered response and to provide better access to the interviewees' views, interpretation of phenomena, understandings, experiences, and opinions.

An interview provides a detailed image of the socio-cultural lives of the occupants and the variables to be studied. In order to acquire additional perspectives, this study put into practice a complementary technique, which was specifically aimed at exploring interesting themes as they emerged during the personal interviews. Direct observation of daily activities, in-depth interviews and physical mapping were conducted; thereafter, all evidence was analysed qualitatively. This analysis technique helps to give a comprehensive picture of the phenomenon, which in this study was achieved by investigating and exploring house changes over the ten years post-2001.

1. In-depth Interview using Story-telling Technique

Kellett (2011:341) suggests that *"ethnographic fieldwork drives data collection and helps to define knowledge."* Following this suggestion, the process of data collection in the field was framed within a phenomenological view with respect to dwelling. In this term, my personal experiences also supported in structuring and defining the knowledge gained.

The qualitative interviews involved a story-telling technique. Following Patton (2002:439), two methods were used: the first is chronology and history, and the other is flashback. Chronology and history were applied, in which interviewees were encouraged to describe what happened within the real-life context of the phenomenon, tracing changes in both the physical house and the socio-cultural lives of the occupants. They portrayed the changes chronologically and told their story across the period from around 2001 to the time when the interview was conducted. Meanwhile, flashbacks were used to explore how the ending emerged, meaning the story starts at the end and is worked backwards.

Patton (2002) highlights that the interview guidelines are prepared to ensure that the same basic lines of inquiry are pursued with each person interviewed. Within this study, the guidelines provided themes and issues and enabled free exploration through questions related to this particular subject. Within this framework, there was freedom to build a conversation around particular themes and issues, to use questions spontaneously, and to establish a conversational style, but with the focus on a particular predetermined subject. These guidelines also ensured that it was possible to carefully decide how best to use the limited time available in the interview situation. In brief, the guidelines provided a framework that assisted the interviewer in developing questions and making decisions about which areas of information to pursue in greater depth.

During the in-depth interviews, a number of technological innovations were used to make the fieldwork more efficient and comprehensive. These instruments were as follows:

- First and foremost was the battery-operated digital voice recorder, which proved more useful than field notes for recording the interviews. With regard to field experiences, the duration of every session was approximately three hours. Some interviewees needed more time owing to interruptions to the interview; during this time, the voice recorder was deactivated. Using this instrument did not eliminate the need for taking notes;

indeed, notes taken during the interviews helped to formulate new questions as the interview progressed. Additionally, the notes could have served as a backup in the event that the recording malfunctioned.

- A digital camera helped the recollection of things that had happened, as well as vividly capturing the setting. Moreover, looking at photographs could assist in recalling the details of certain activities that had not been fully recorded in the written notes. Photographs also documented the physical housing changes, domestic activities, and all relevant evidence that could support the analysis.
- A portable computer is a fieldwork tool that can facilitate the writing of field notes. In the night, this instrument was used to type up all activities, and to aid reflection upon information obtained from the fieldwork which was relevant to the research problems.

At some stages in the interviews, the guidelines were amended in light of certain conditions. The first amendment was to address the fact that there were too many question words in the guidelines. Previously, it had been assumed that attaching question words would help to explore in-depth information during the interviews, but in reality, it created a formal interview structure. The interviewees felt uncomfortable and it felt like an interrogation. In later interviews, the guidelines were revised by deleting the question words. In addition, a more personal approach to the interviewees was employed by means of informal chatting, but still following the issues from the guidelines. A second change related to the fact that some issues intersected with others, even for different themes. To avoid repeated discussion of similar issues, some related points were combined into the same issue. As a result, the guidelines were simpler and more focused and organised.

2. Physical Observations

Physical observations provided a check on what was reported in the interviews (Patton, 2002:262). Physical observations, photographic records and sketches were used to research space and the physical aspects of the houses, for instance, the house plan, room size, the use of domestic space and the changing, habitable space, the domestic lives of the occupants, and so on. These observations were also used in order to investigate the processes and effects of transformation and cultural settings.

3. Physical Mapping

Physical mapping was carried out by measuring and sketching the transformed house plans. The sketches showed the different types of housing transformation and indicated the process of the transformations, especially any extensions. Throughout the interviews, the interviewees were shown the original plans of the houses from 2001 and asked which parts of the house had been transformed. Unfortunately, since Sueca did not use a digital photography system, there are no photographic records. As a result, it was not possible to trace the changes over ten years through direct comparison of the 2001 and 2011 images.

Meanwhile, there were only ten house plans from the previous study which have been sketched. The house existing of the remaining interviewees were revealed regarding tracing house changes over ten years from in-depth interviews. Therefore, the house plans of the transformed houses could be reconstructed and roughly sketched in the field: see Figure 3.4. Then, these sketches were redrawn freehand and to scale, and the most sacred direction, room

function, and legend was added: see Appendix F. Every case was plotted into, at least, two house plans: the existing case in 2001 and the transformed house in 2011. The changes could be determined from the notation that was plotted onto the current house plans.

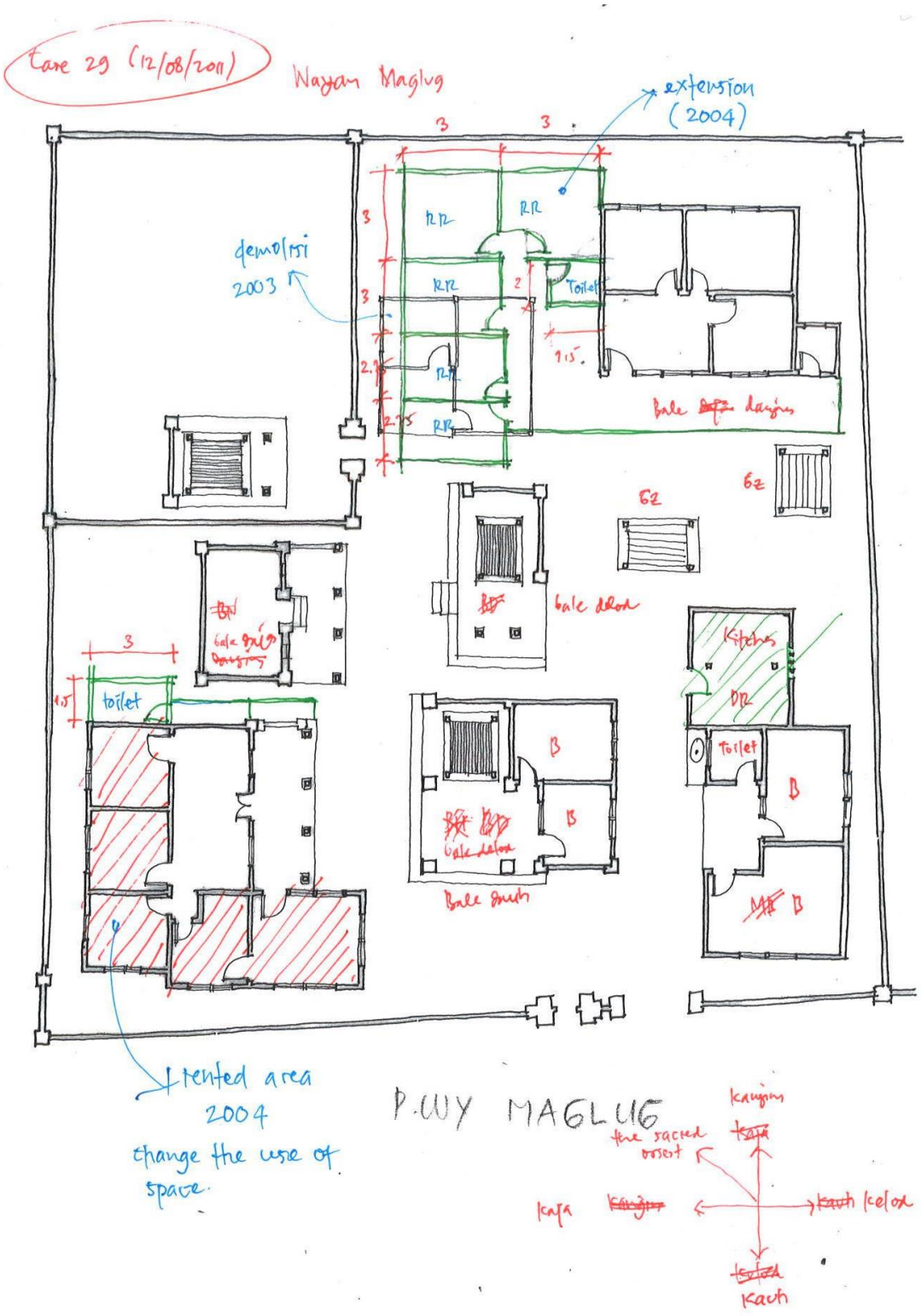

Figure 3.4 Reconstructed house plan was sketched in the field

4. Photographic Record

A digital camera was used to record the physical changes, daily activities, use of space, and other relevant information. By using a story-telling technique, every physical change could be traced and the evidence documented. Furthermore, the sketches of the house plans and photographic records supported the in-depth interviews to provide a foundation for analysing the transformations.

5. Making Field Notes

Throughout the investigation, taking field notes was necessary in order to record variations in the data. Field notes include a description of what has been observed. These records contain everything that the researcher believes to be of worth from experience (Bryman, 2012:447-448). Writing in the moment is very helpful because the events are fresh in the memory and it is easier than trying to recall specific elements of the situation at a later time. This information helped in understanding the context, the setting, what had occurred, and what was going on that should be noted as soon as possible.

Field notes are a fundamental database for constructing case studies and carrying out the content analysis of cases in qualitative research. This is due to the fact that they contain the on-going collected data and descriptions of what has been experienced and observed, and reactions to what is observed. Field notes from this study are described in some detail below:

- Field notes are descriptive. They should be dated and should record basic information such as where the observation took place, what the physical setting was like, and what activities took place. In other words, field notes contain descriptive information that will permit the researcher to return to an observation later during analysis.
- Field notes contain what people say; direct quotations, or as near as possible recollections of direct quotations, should be captured during fieldwork, recording what was said during observed activities as well as responses gathered during interviews, both formal and conversational.
- Some field notes also contain my own feelings, reactions to the field experiences, and reflections about the significance of what had been observed.

Additionally, I endeavoured to collect and report all reasonable evidence during the investigation and substantial themes and relevant issues were addressed within the conceptual definitions. The most obvious concern was that I was an active agent in the process of data collection. This means that, while undertaking data collection, it was necessary to be able to ask good questions and in a flexible manner, as well as to listen to and interpret the answers.

From the field experiences, it was concluded that practical observations, photographic comparisons, the sequencing of detailed house plans, and in-depth interviews were appropriate means of revealing domestic life in Balinese urban dwellings. This is because since the house plans showed the sequence of the changing situation over ten years; photographs were a practical way of documenting evidence of domestic space; and in-depth interviews with the occupants revealed explored the evidence of the occupants' socio-cultural lives. During the investigation, in-depth interviews with story-telling techniques were identified as the most

powerful method or collecting qualitative data, whereas the other methods supported the interviews to achieve a fuller image of the socio-cultural changes within the cases studied.

The process of in-depth revisiting is illustrated in Figure 3.5. In this scheme, the stages of collecting the case data are chronologically explained. It also provides brief information about the survey methods that were brought together in the field. All types of data were grouped as case study data.

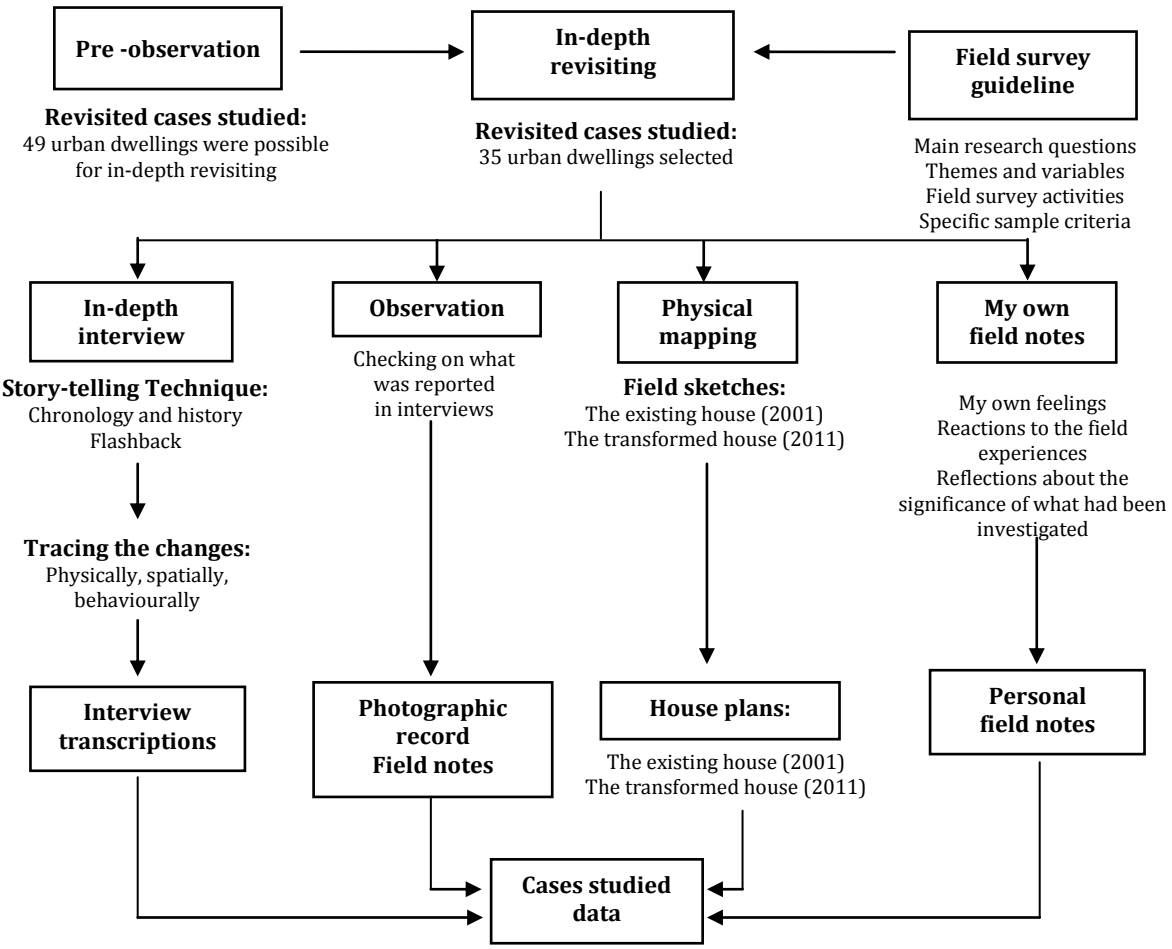

Figure 3.5 The process of collecting data in the field

When second visiting in March 2013 for a few weeks, I observed some families who live in low-cost housing had changed their houses. The same situation also occurred in traditional houses, in particular those locate both in along sides of main road (Jalan Raya Sesetan). House changes from the last investigation in 2011 until the second viewing for data validation in 2013 are motivated by one main reason: a strong desire to reach the preferred level of housing in the current dwelling. House clearly *grows* with regard to the occupant's life. Meanwhile, traditional dwellings changed due to economic motives. Increasing commercial activities along sides of main road had motivated the occupants changed habitable units within rentable spaces to generate income for the family.

3.3 Analysis and Interpretation Strategies

3.3.1 Post-interviews: A Transition between Fieldwork and Analysis

The post-interview period is a time for checking the quality of the data. Even though the digital voice recorder functioned correctly, the interview notes were reviewed to make certain that they made sense, and to uncover areas of ambiguity or uncertainty. If an observation seemed not to make sense, clarification was sought from the interviewees as soon as possible; this was done either by telephone or by visiting the interviewees in person. It appeared to be the case that the occupants who had been interviewed appreciated such a follow-up visit because it was indicative of the seriousness with which the researcher was treating their responses. This post-interview period was also a critical time for reflection and elaboration. It was a time of quality control to guarantee that the data obtained would be useful, reliable, and authentic.

Transcription is understood as the graphic representation of selected aspects of the behaviour of individuals engaged in conversation, for example, an interview or an everyday chat (Kowal and O'Connell, 2004:248). The aim of producing a transcript is to represent on paper as accurately as possible the strings of words uttered. Transcription is the act of transcribing, a system of notation. Transcribing is the transition between fieldwork and analysis (Patton, 2002; Wengraf, 2001). All of the interviews had to be transcribed before analysis could begin. Transcribing offers another point of transition between data collection and analysis as part of data management. Through transcribing, it is possible to produce notes, memos, thoughts, reactions, and a transcript. This is a lengthy process.

The process of transcription started with a blank matrix, which contained numbering for each future transcript. For each interview, two columns were filled in: one was for the themes discussed, and the other was for evidence or opinions of the interviewees (see Appendix C). In order to move quickly between interviews, and to allow proper quotation, it was necessary to transcribe the interviews in full before analysis. Having more than 35 narrow-ruled sides of transcripts, with keywords highlighted and quotations numbered for easier reference, made it much easier to find relevant passages, to analyse the interviews, to quote verbatim, and to compare and contrast answers.

The data acquired from in-depth interviews is in the form of words. It is difficult enough to be sure what a person means when using a common language, but words can take on a very different meaning in other cultures. Translation is needed to understand precisely what the interviewees' actual responses mean. Some words and ideas simply cannot be translated directly. Indeed, in the course of this stage, a translation problem arose. Interviewees used two different languages, either Bahasa Indonesia as a national language or Bahasa Bali as a local language. However, all interviews needed to be translated into English. Therefore, three languages were used in the process of communication throughout the research. English had an important role in the substantial discussions of the research with supervisors. Bahasa Indonesia was used in both discussions and conversations with the relevant experts or researchers, and when carrying out institutional surveying. The proper Balinese language was applied in interviews and when obtaining permissions from local authorities. In addition, two versions of the guidelines were written in both English and Bahasa Indonesia. Nevertheless, for interviews the guidelines were translated into the Balinese language. As a result, several

difficulties were encountered, namely, occasional difficulties in choosing the right words as an explanation of what had been asked, as well as the expressions of the interviewees.

3.3.2 How the Case Data were Organised

Interviews, observations, documents, and field were grouped notes together into *findings.* These can be approached in two ways:

1. Case data are organised to describe *important processes*, for instance, the socio-cultural conditions of the inhabitants after 2001 and the process of change, and the processes and effects of transformation. Distinguishing important processes becomes the analytical framework for organising qualitative descriptions.
2. An analysis can be organised in order to clarify the *main themes* and *key issues* and present them in a simple diagram for each main research question. This aims to make it easier to categorise which themes and key issues answer the research questions, and this was a useful guide during the analytical process.

The challenges of qualitative analysis include making sense of considerable amounts of data, reducing the volume of raw information, identifying significant patterns, and constructing a framework for communicating the essence of what the data reveal. There are no formulas for determining significance the researcher's knowledge and experience should be used in order to fairly represent the data and communicate what the data the reveal where it is relevant to the purpose of the study.

3.3.3 Linking Data: Making Connections

While engaging with the data from fieldwork, it became clear that linking data involves recognising substantive rather than formal relations between themes and issues. Formal relations are considered to be how the evidence relates in terms of similarities in and differences between characteristics. However, substantive relations are concerned with how this evidence from fieldwork interacts with the appropriate themes and issues from a theoretical framework. Those areas of evidence that are linked through interaction need not be comparable, according to Sayer (1992:88).

For the purposes of this research, two simple diagrams are used to illustrate all of the analytical processes, the first of which aims to answer the first and main research question. It is divided into several main themes, and each of the main themes is further categorised into sub-themes and specific issues. In this step, the engagement of the themes and issues on one side is interconnected with appropriate evidence on the other side. Then, selected evidence supports the argument of each of the appropriate themes and issues. Therefore, the research proceeded on the basis that the links devised ought to correspond with the theoretical, conceptual and empirical data. This step is in accordance with suggestions by Dey (1993:155), who proposed that the linking of data ought to be done both conceptually and empirically. Yin (2014:135) also adds that creating a matrix of categories and setting the evidence within such categories are essential starting points for working with data. This means the researcher establishes the conceptual and empirical relationships between the framework in the

literature review and the data from the fieldwork. This connection is presented diagrammatically in Figure 3.6.

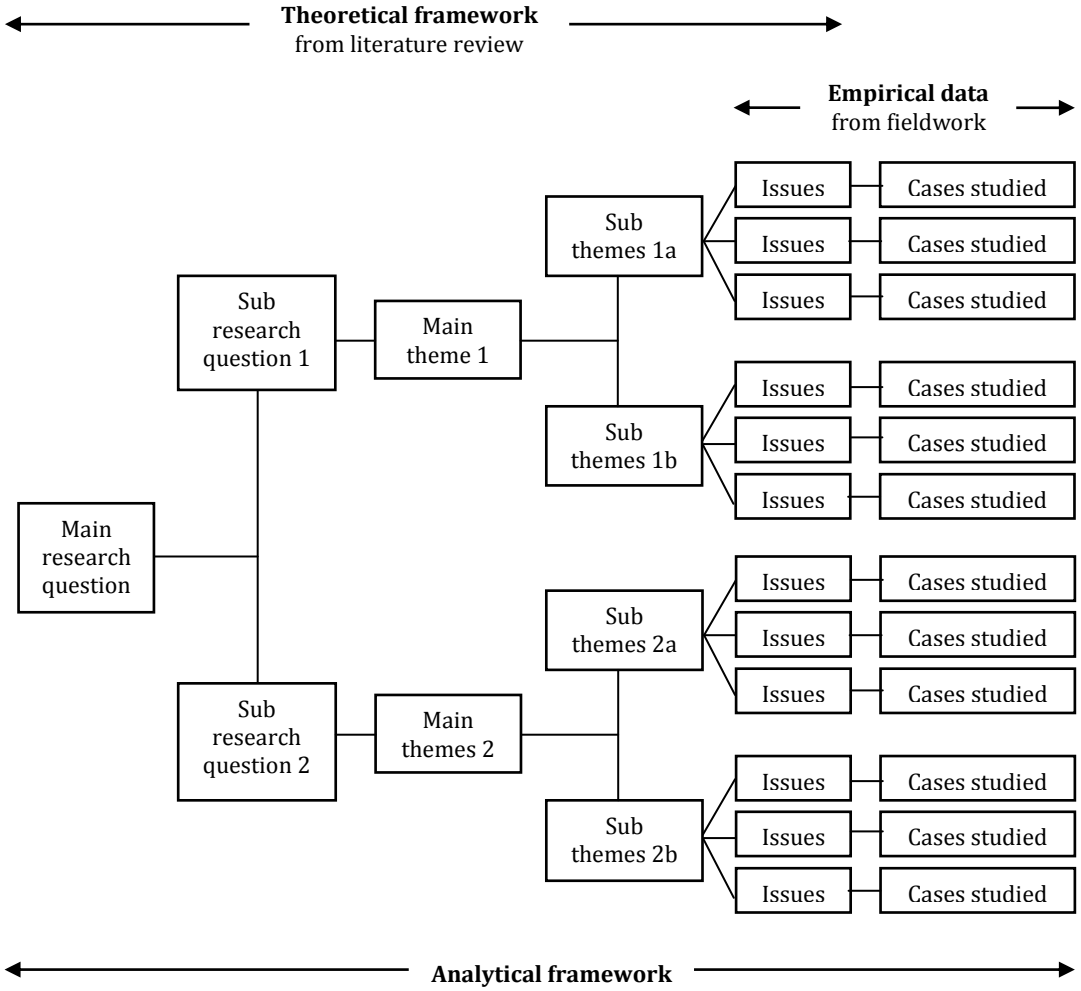

Figure 3.6 Making connections between research questions and data from fieldwork

Dey (1993:53,265) presents two kinds of qualitative analysis: Linear and Loop. Linear analysis is understood as a logical sequence of steps, from the first encounter with the data through to the problems of producing an account or explanation. This sequence reflects the relevant relationship between different phases in the analytic process. Meanwhile, Loop implies that the analysis has a clear sense of direction from the outset and this determines a straightforward path from data to results. It can be imagined as a set of spirals.

Dey (1993:52) explains that the system creates a set of interconnection among logical parts seem reasonable. Indeed, the current study emphasises qualitative inquiry that proposes to develop the theories rather than examine them. Developing adequate conceptualizations of the research problem before elaborating theories is the main concern. This relates to Bliss's view (1983) that the researcher who defines problems, identifies them, and formulates arguments

rather than investigating problems within a theoretical framework performs qualitative analysis.

Despite having presented qualitative data analysis as a sequential process, in practice it was difficult to work in a direct line from the first encounter with the field survey data to the conclusions as this involved connecting back and moving forward through various phases within the broader process of the analysis. The analysis of the qualitative data can be imagined as a series of spirals. This illustration highlights the interdependence of procedures used in the analysis. Any particular phase of the analysis could have necessitated a re-reading of the data or move forward to producing an explanation. Like a spiral, the process of analysis can turn through successful cycles at a higher level as more evidence is accumulated, and then concepts and connections become clearer. Therefore, the process is indeed iterative and is better represented by a spiral than a straight line, as shown in Figure 3.7.

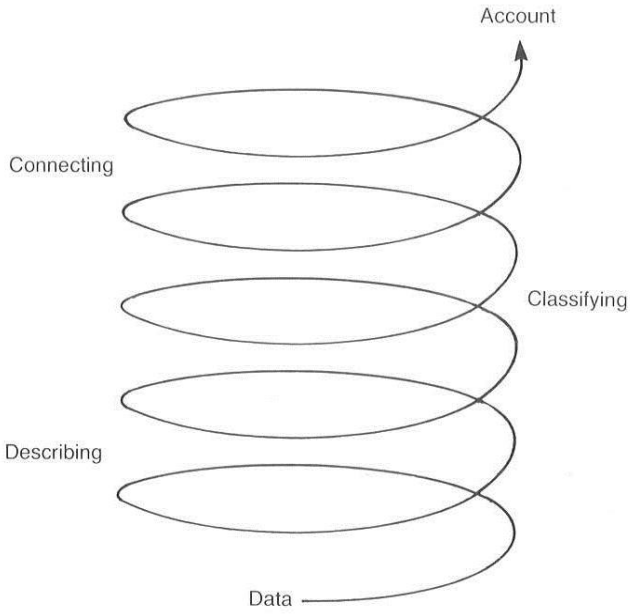

Figure 3.7 Qualitative analysis as an iterative spiral
(Source: Dey, 1993: Figure 3.10, p. 53)

Briefly, through this iterative process, it can be said that categorising evidence from fieldwork into the relevant main themes and key issues can contribute to the identification of contextual meaning. Patterns (in this study represented by simple diagrams), can aid understanding of the distinctiveness of each of the research questions. Both linking and engaging can contribute to analysing connections. Moreover, explanations can incorporate both narrative and analytic elements.

3.3.4 Structural Analysis: Formulating the Explanations

As mentioned in section 3.1.2, this study uses a naturalistic paradigm, inductive qualitative research, and case studies as a comprehensive research strategy. The study requires a deep understanding of the relationships between people, housing, and culture, particularly the dynamics of the socio-cultural lives of the occupants and the process of housing transformation. Starting the analysis of the evidence is one of the least developed and most difficult aspects of doing case studies, due to the strategies and techniques not being well defined (Yin, 2014:127). As a result, in order to formulate the explanation, the researchers have to go through the analytical stages.

Gall et al. (cited by Dooley, 2002) categorise two types of analysis in the case study research: structural and reflective. Structural analysis is the process of analysing the case study data to identify the integrated patterns in discussions, interviews, texts, events, or phenomena. In contrast, reflective analysis involves a decision by the researcher to rely upon personal intuition and judgment to analyse data, rather than technical procedures.

This study employed structural analysis for several reasons. The first reason was that it uses a method of qualitative analysis of case study data for exploring the main themes and key issues inherent in the discourse of relevant phenomena. It also follows the analysis strategy suggested, including: organising data, describing, classifying, connecting, and accounting for the explanation of important themes and issues, reaching the conclusions; and evaluating the results and processes. This is in accordance with the viewpoints of some experts in qualitative research (Yin, 2014; Silverman, 2006; Patton, 2002; Dey, 1993). The field data were analysed for linkages, insights and connections with the research questions. Then, it was possible to answer the how and why questions satisfactorily. The second reason for using structural analysis is that this study uses a spatiotemporal perspective across a particular time frame in order to identify a link between people, houses, and socio-cultural factors within the process of housing transformation. It mentions the dynamic forces of the socio-cultural lives of the occupants and their impact upon housing changes in ordering the transformed house. In other words, the study interpreted the continuity and change of the houses across a particular time period. Thus, there is a diachronic and synchronic dimension to the analysis ethnographic data (Chrisomalis, 2006:378). Synchronic dimension are best suited to cultural studies that allow a more direct comparison of cultural change; whereas diachronic analysis are most suitable for the analysis of processes of patterned historical change. Therefore, analysing ethnographic data from two sequences of time in 2001 and 2011 allows the current study using diachronic dimension for exploration the processes of house change.

The explanation above and all considerations relate to the current research questions. Analysis and interpretation refer to the viewpoints of Patton and Yin. As noted in section 3.1.1, this study applied a qualitative inquiry in order to provide an overview of grounded theory in the context of the theoretical perspective. Patton (2002:489) states *'grounded theory is meant to build a theory rather than test a theory';* therefore, the initial analysis of this study was accomplished by identifying the main themes and key issues from real-world phenomena and generating explanatory propositions. Yin (2013:238) defines *explanatory propositions* as being intended to explain how or why certain circumstances came about, and how or why a particular sequence of events occurred. Thus, all findings and formulated explanations were

inductively analysed in order to answer the how and why research questions. An authentic contribution to the development of knowledge is expected, which could reveal the truth about the nature of the relationship between dwellings and occupants and all relevant variables. The connection from fieldwork to the analysis and interpretation stages is presented in Figure 3.8.

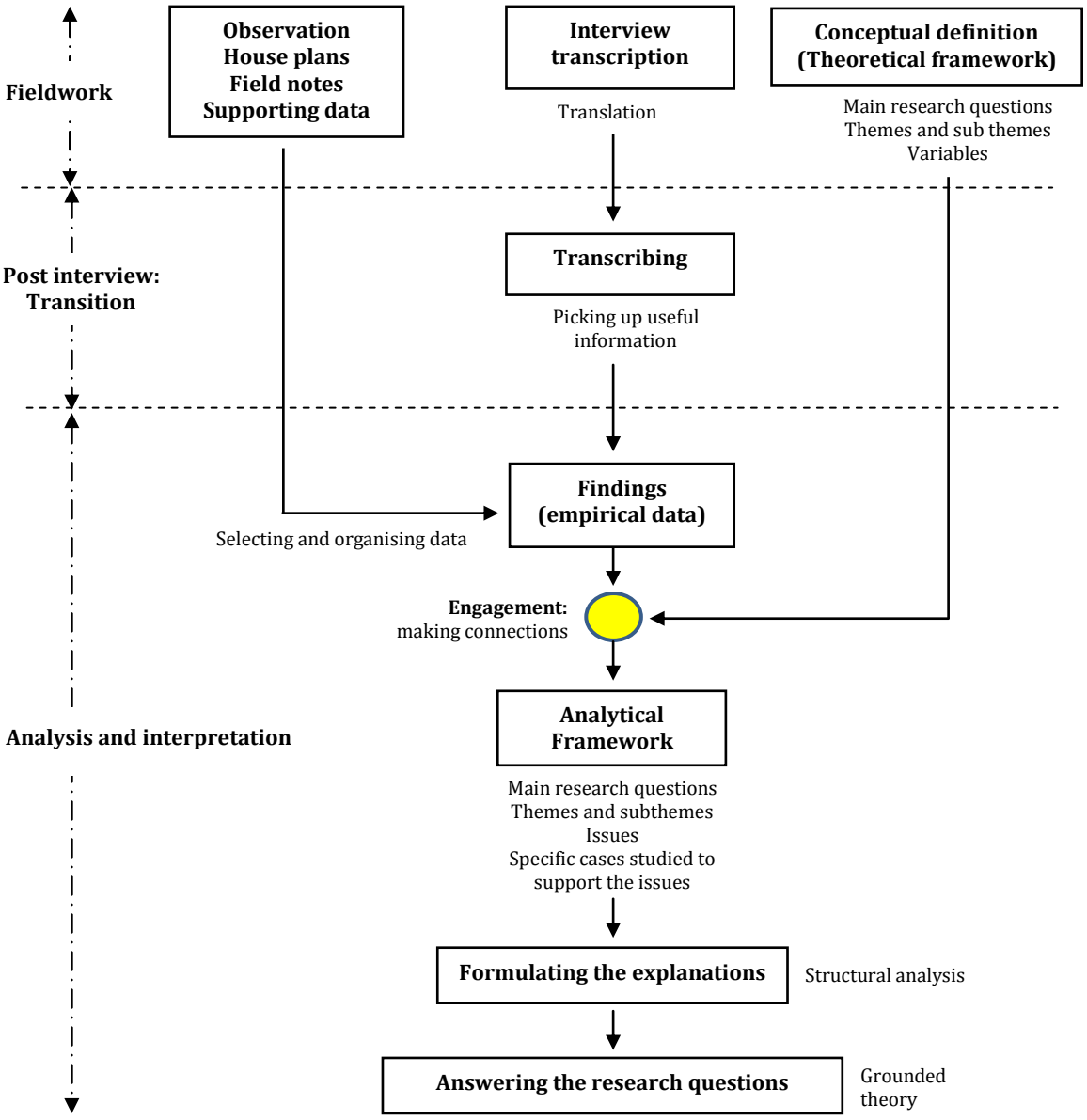

Figure 3.8 Answering the research questions involves a lengthy process from fieldwork to analysis and interpretation

3.3.5 Reflection: The Researcher's Role in the Inquiry Process

It is very challenging to carry out qualitative research. Previous experiences in this kind of research were flawed, poorly organised and were performed within the area of housing a few years ago. Studying housing is extremely interesting. A house looks like a simple world, but actually it is a complex mix of phenomena that interconnect with many relevant variables and disciplines. Thus, carrying out this study was a beneficial experience for two reasons. It not only fulfilled the requirements of the doctoral programme, but it also provided a platform for transferring experiences and knowledge to my future students.

From field experiences, it was noted that a qualitative study could be understood as a research activity that fully involves the researcher in a field survey in order to get closer to the respondents, informants and research topic. Jones (1983:149) points out that the real life world can develop knowledge. The constructions and explanations of the parts of this world are used to illustrate their existence and activities. Kellett (2000:189-190) also argues that, compared to analysing other qualitative data, oral testimonies give the most noteworthy effect upon the focus of the research with an ethnographic approach. In this situation, as an investigator of this study, I have little control over the set of transformation phenomena that occur in urban dwellings. Nevertheless, the challenge was to report all evidence fairly so that it accurately represented the power of oral testimonies in order to answer the research questions. This means that it should provide the highest quality in-depth interviews. This quality of evidence can only be obtained by developing relationships of trust and friendship (Kellett, 2011:342): sitting in the interviewees' homes, chatting with them, and directly observing the evidence in order to understand the issues. Without a doubt, oral testimonies are a strong aspect of this study. This can be seen in the analytical parts, in which in-depth interviews evidently play an important role in supporting the themes and issues. This is the power of words, which should be highlighted as an essential point.

Before coming to the UK to study, I had six years' experience of living in low-cost housing in Denpasar in the original Type 45m^2 and 110m^2 plot size. The original house plan comprised a combined living and dining room, one master bedroom, one bedroom, a bathroom and toilet, a small kitchen, a front veranda, and a car port for a four-seater car. All rooms were limited in terms of space and the plot only allowed a little space for the front yard. The building facade was of typical appearance, so there were no differences with the neighbours. However, the positioning on the site did not fit with local cultural values, as the building was oriented towards the alley or *kelod* (south direction). In order to accord with the Balinese hierarchy of spaces, the most sacred space, or *Utama,* should be positioned in *kaja* (north direction), but in fact, this was plotted as the master bedroom, bathroom, and toilet. In order to address these disadvantages, prior to construction I redrew the original house plan and changed the façade at extra cost with bigger room sizes and good quality materials. The traditional features and materials in the new design expressed the Balinese style. Meanwhile, the more important endeavour was to fit the sacred space into the plot. For this, advice was sought from *pedanda* (the Hindu priest) regarding any negative impacts for the occupant in changing the position of sacred space and regarding which ritual processes needed to be performed in order to realise these changes. I also asked *undagi* (the traditional Balinese architect) about which important *pelinggih* (shrine) should be built in this space. Prior to the initial building process, I had to make sure that everything was correct in the self-initiated plan.

Even though the changes to the original housing plan were self-initiated, occupying low-cost housing is very challenging for the Balinese. I was accustomed to living in my parents' house, which is a large modern house with many rooms, located on another island. Interestingly, although my parents no longer live in Bali, my father had made many efforts to maintain Balinese culture in this house, particularly in terms of housing alterations and determining sacred and profane spaces. He believed that following the rules of the traditional Balinese architecture in the spatial arrangement would deliver good fortune and protect the family from negative influences. Additionally, it shows respect to *Ida Sang Hyang Widhi Wasa* (the Creator) and *leluhur* (ancestors) for blessings and a healthy life. Family temple is in an ideal position that fits with the most sacred orientation of *kaja-kangin*. Many rooms and a large yard enable to the celebration of ritual festivities and cultural ceremonies with neighbourhood participation.

Another life experience relates to a temporary stay in my house of origin, or the *kampung*, which is located on a rural farm in West Bali. It is an inherited house with a history of more than five generations, and is home to my extended family. This house is a traditional multi-compounds with a rear garden and a large inner house yard for ritual and socio-cultural activities has been preserved. Both of these life experiences afforded an opportunity to become accustomed to living in housing with multi-compounds and many rooms, leading to expectations which needed to be adjusted when living in low-cost housing. This in turn provided the motivation to learn how to experience domestic life within a limited space. Hence, in carrying out this study, personal life experiences were inevitably an influence. However, as a middle-class person in Denpasar, it was possible to access adequate low-cost housing for living through self-initiated development. During the investigations of low-cost housing, the attempts of the occupants to transform their housing were noted in response to the dynamics of housing needs, daily and cultural life, and self-identity. The particular interest was the opportunity to survey a house owned by Ni Nyoman Sudri, a widow with two children who works as a housekeeper. Financial constraints have affected her ability to provide adequate housing for living and she thus extended the house using low-quality materials in a poor condition which were inappropriate for housing use. Most low-income groups who inhabited sites unsuited to the local cultural values had to make great efforts in order to meet the extra costs needed to adjust their homes.

Of further note was how cultural transition had occurred in traditional dwelling. Additional compounds in house yards have changed the spatial layout such that they no longer fit the traditional spatial arrangement. Western architectural styles, such as minimalist and modern, also appear on the building façades of the compounds. The ability to generate extra family income has also resulted in changes to the building appearance and the use of space. Some cultural activities and sacred space in habitable units were also only slightly preserved by occupants. Evidently, these circumstances would possibly not support the policy of the local government to realise Denpasar as a heritage city.

My curiosity as a junior lecturer and a young researcher of housing issues has motivated me during this research. In my opinion, it is necessary for local government and private developers to follow universal guidelines for low-cost housing in Bali. A house from the Balinese perspective is merely a physical entity, but it also has spiritual dimensions that must be preserved over generations. A supportive design that is sensitive to local issues could help

low-income groups to improve the quality of low-cost housing. Numerous researchers have given attention to the importance of local culture in housing provision. Therefore, this study has provided an opportunity to carry out further reflection upon this subject of interest in terms of the ways to make a positive contribution to the low-income groups who live in typical low-cost housing in Bali.

During the inquiry process, the involvement of whole families was encouraged, particularly the wives. The decision to transform the house was not merely made by the head of the family; obviously, the wife and even in some cases the children also contributed to the decision-making process. In light of this circumstance, I attempted to get closer in the interviews, with the intention of understanding what they might be doing at the time of the field survey or their daily activities. At the same time, efforts to get closer to the interviewees influenced the process of reflection about how much to trust the information provided by them. As a researcher, using in-depth interviews to trace the housing changes and relevant issues, and following this with observations and physical mapping of the cases studied is an appropriate method for gaining a trustworthy picture of the socio-cultural lives of the occupants. It was possible to learn that the occupants had decided to transform their housing in response to specific aspects of their socio-cultural lives.

3.4 Conclusion: Noteworthy Points from the Research Experiences

This chapter has explained the methodological framework and research design for how this study was approached. The study was focused on the nature of the interactions between the occupants and urban dwellings during the process of transformation, and how the processes of transformation illustrated specific aspects of the socio-cultural lives of the occupants in Denpasar, Bali. Practically, this study was structured as qualitative research with an inductively designed naturalistic paradigm as a strategic approach. Accordingly, a case study approach, in this context revisiting the cases previously studied by Sueca (2003), was adopted as a research strategy, involving a sequence of investigations by way of tracking the housing changes over ten years post-2001. The adoption of this approach was helpful as it provided a coherent view and in-depth investigation of all relevant variables that affected the reordering of the transformed house.

It should again be emphasised that this kind of this research should be flexible and allow the researcher to select the most appropriate methods. These methods enable the researcher to make choices in response to uncontrollable variables that could emerge in natural settings. Furthermore, in spite of the fact that these common practical issues could be improved, one lesson from the fieldwork is that carrying out successful case study research is still difficult to do. There are few defined ways of preparing a good case study, and so the investigator's skills have not been formally defined. Consequently, most researchers feel that they can prepare a case study, and nearly all of them believe they understand the process. I also have the same experience as other researchers.

Furthermore, flexibility in the research design was offered by the case study approach, which facilitated a combination of survey techniques for data collection and analysis. In-depth interviewing using a story-telling technique to highlight the main themes and key issues was a

significant method, and one which represents the power of oral testimonies in order to answer the research questions. Chronology and history were practised by the interviewees to reveal what had happened in the real-life context of the phenomena, tracing housing changes in terms of both physical condition and the socio-cultural lives of the occupants. The qualitative interviews, which involved direct observations, physical mapping, and photographic records, enabled the exploration of the data gathered from the cases studied in order to expand the findings. The next chapter will provide a brief portrait of Denpasar, including the history of the city and housing development, both nationally and locally. It also describes a discussion of the Balinese culture and traditions, and the meaning of home from the perspective of this ethnic group.

Chapter 4

Denpasar: Inside the Phenomenon

Chapter 4. Denpasar: Inside the Phenomenon

The history of Denpasar is illustrated by the presence of the keraton [the royal palace] *in 1788 and the* bale kulkul[3] *at ground zero. Later, this bale was moved to the north corner of* Patung Catur Muka[4]*. From* a *traditional town, this city grew into a global urban centre that hosts many amenities and activities: civic centre, tourism, education, and economic activities.*

Most important for the Lord Mayor is managing this new metropolis with the spirit of the motto Dharma Sewaka *or "serving is duty"; the city council serves the residents, who are a part of government itself. Meanwhile, the plurality of the city has happened since the days of the empire, and the dynamics of population and urbanisation need to be restricted in order that the balance between cultural creativity and population does not impact upon the capacity. Otherwise, a common problem for the city will arise: degradation!*

(Prof. Anak Agung Bagus Wirawan, historian[5])

Denpasar: Inside the Phenomenon

The New Metropolis

Denpasar and its current development cannot be separated from the national momentum of the economic crisis and the political chaos in Indonesia during 1997–1998. Post-1998, this historical event has prompted people to migrate to Bali due to favourable conditions, such as job opportunities, greater safety and more stability, as well as the hospitality of local people towards newcomers.

In the seventeenth century, Denpasar was the central area of the Badung Kingdom. The king was defeated by Dutch Colonialists on 20 September 1906, which became known as *Perang Puputan Badung*, or the heroic war of Badung. After Independence Day on 17 August 1945, the city was established as the civic centre of the Badung Regency, which consisted of four sub-

3 Drum tower, a means of communication in traditional Bali by which some public messages were transmitted (e.g. messages of public gatherings, fire hazards and floods).

4 Ground zero of Denpasar, which is indicated by a big statue that has four sides of faces oriented towards each direction: east, south, west, and north.

5 Keynote speaker from Udayana University in an interactive dialogue on culture on the topic of "Kotaku Rumahku" in celebration of the 225th Denpasar Anniversary on 27 February 2013 in Denpasar.

districts: West Denpasar, East Denpasar, South Denpasar, and North Denpasar. Then, it became the capital city of Bali Province in 1958. As a result, this city has experienced rapid multi-sectoral growth, particularly in terms of physical, economic, and socio-cultural developments. Denpasar is the centre of government, trade and industrial activities, education and tourist development. The lives of the people of Denpasar illustrate many of the characteristics of modern urban society.

The per capita income of this city increases annually. Accordingly, it has experienced extreme urbanisation, particularly from adjacent rural areas. Thus, this has rapidly increased the growth of the population, predominantly in urban growth centres such Denpasar. Despite the fact that the family planning policy has gradually decreased the natural growth of the population, the growth in terms of migration and urbanisation is still significant. As an illustration, in 1990, an estimated 2,777,356 people lived in Bali; this figure had reached 3,054,201 by the end of the twentieth century (BPS Bali, 2001). In 2012, the population was 3,686,665 people, 532,860 of whom lived in Denpasar, giving an average annual growth rate of 4.05% (BPS Bali, 2012). At the present time, the national government regards this city, together with Medan in North Sumatra and Makassar in South Sulawesi, as a new metropolitan area of Indonesia.

This chapter aims to illustrate the general physical and cultural background of the research settings. Firstly, the histories of Bali and Denpasar are highlighted, followed by an explanation of the general housing policies and problems in Indonesia and Bali. The chapter then offers an explanation of Balinese culture and tradition. The last part of the chapter emphasises how the Balinese create and perceive their built environment. This chapter gives the readers a broader picture of the research context: the physical, demographic, social and cultural elements and, in particular, the meaning of the house for the Balinese.

4.1 A Portrait of the City

4.1.1 From *Keraton* to Global Urban Centre

Traditional towns in South-East Asia had been generally shaped upon the conception of cosmology. At the core of this concept is the belief that there is a harmony between the macro-cosmos and micro-cosmos, wherein the king is imagined as the manifestation of God (Gesick, 1989; Geldren, 1982). As a result, from the ancient periods to now, the palace has existed as the development centre of the town for multiple sectors, including economic, social, cultural, education and political sectors.

Denpasar clearly represents the above phenomenon. Most evidence indicates that Denpasar was originally developed from *keraton* or *puri*, the royal palace of the Badung Kingdom. Its history can be traced from the roots of the name 'Denpasar', which consists of two words: *den* meaning 'north', and *pasar* meaning 'market'. Therefore, 'Denpasar' means 'north of the market'. In the pre-colonial period, the palace would have been the centre of the city, complete with public hall, crossroads and the marketplace. Later, during development of the area, 'Denpasar' not only referred to the palace (which was destroyed by the Dutch in 1906), but to the whole town. According to Agung (1986), Badung (now Denpasar) was founded in the

eighteenth century by King *Gusti Ngurah Sakti Pemecutan*, one of the *Majapahit* dynasties who first occupied Bali in 1343.

After Bali was conquered in 1908, the Dutch developed Denpasar as a centre for economic development based on trading and tourism in Southern Bali. The idea of cultural conservation was initiated by adopting local architecture to construct modern facilities such as the Bali Museum. The Bali Hotel was also built to provide tourist accommodation in the town centre. The colonial authorities decided to declare Bali a *living museum*, and prohibited missionaries from coming to Bali. These first initiatives of the colonial authorities cannot be separated from the goals of the current tourism industry of this island in terms of promoting, conserving and developing Balinese culture.

Soekarno, the first president, developed Bali as the centre of the tourism industry. He built two main facilities in the 1960s: Ngurah Rai International Airport and the Bali Beach Hotel (known as the Inna Grand Bali Beach). By the 1980s, Soeharto, the next president, had expanded the tourism development on the island. The government allowed for the provision of various types of travel accommodation, from international five star hotels to local inns in the three main tourist resorts of Nusa Dua (the most luxurious resort), Kuta and Sanur, especially in Denpasar and the hinterlands. However, the provision of tourist facilities is currently focused in Denpasar and its neighbouring areas. This city has grown as a global urban area and tourist destination and plays an important role in the development of the province. Consequently, urbanisation is inevitable and migration brings both positive and negative consequences for the socio-cultural and spatial structures, infrastructure, housing development, the environment and economic development. A progressive land conversion from agricultural fields to residential areas and other facilities is the main problem of spatial development in this city, as described by Drysdale (quoted by Bater, 1995). Traditional settlements in this area then agglomerated and became the modern city. They gradually lost their architectural and spatial identities.

> *…the impact of land conversion is greatest in the core area of economic activity, Kabupaten Badung, in which Denpasar, Sanur, Kuta and Nusa Dua, amongst other well-known centers, are located. The concentration here of manufacturing which caters to tourist demands has done little to ease the already considerable burden placed on the environment by the huge expansion of tourist facilities, not least of which is starred hotel development* (Bater, 1995:88).

The New Order period has established tourism as an important sector for Bali's economic development over the last three decades. This has encouraged exponential land conversion development in Denpasar and the surrounding regions. Furthermore, the promotion of Balinese culture is one of the domestic objectives in order to increase national economic benefits from the tourist sector. For this purpose, cultural tourism has been implemented in cultural forms and practices to support national unity. For this reason, the Balinese have repositioned their cultural reforms to deal with national commitments (Suartika, 2010:5-12).

Nevertheless, local society still preserves the existence of *banjar* (a neighbourhood association) and *sekeha* (voluntarily work group). Interestingly, this society can live without conflict with urban migrants from other provinces, even from other countries. Such a situation can be found in Kepaon, South Denpasar, in which local traditions acculturate with newcomers who are mainly Javanese Moslem. The uniqueness of local society cannot be separated from

the characteristics of *keraton* life. Indeed, the royal palace and *banjar* co-exist in harmony. As Wirawan (2013) explained in the interactive dialogue of culture, one local wisdom is *menyama braya*[6], which is inherited over generations. *Menyama braya* is obviously found in ritual processions, festivities and ceremonies, such as *pawiwahan*[7]*, ngaben*[8]*, barong ngelawang*[9] and other cultural activities. It is the main reason this ethnic group is known as a tolerant, open-minded, and friendly society.

4.1.2 A Hindu Corner within the Islamic World: Beyond Cultural Tourism

The United Nations (2014) notes that in January 2014 Indonesia was the fourth most densely populated country in the world with almost 247 million people. The country also covers 13,677 islands, 360 ethnic groups, 250 local languages, and six recognised religions (BPS RI, 2012). This composition creates diverse cultural characteristics on one hand, but also a significant social conflict on the other. Indonesia has no adequate facilities to support inherited economic and social discrepancies, although it obviously has numerous natural resources (oil, natural gas, minerals, and fertile soil for agriculture). Crucial problems are the serious corruption within the state bureaucracy and of political figures, the setting up of monopolies in the business communities, and the concentration of wealth within a few privileged families. Consequently, these problems have negatively affected Indonesia over decades.

Indonesia is the largest Moslem country, but it has peculiarities, among them religion. Bali Island is in the middle of this country, which is a historical inheritance of the Hindu movement in South–East Asia. Almost 90 percent of Balinese practice Balinese Hinduism, a mixture of Hinduism and the Balinese ancient belief in animism (BPS Bali, 2002). These combined beliefs form the complex and unique cultural system of the *adat* (customary law) and its practices (Oka, 2001). Nevertheless, the systems of the modern Indonesian state were established in 1947 and have been integrated into all local customs within one dominant system. This integration encourages the national ideology and cultural majority to influence the culture of the Balinese community (Suartika, 2010:4-5).

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6 The equality, solidarity, and social recognition that all people are comrades, so the attitudes and behaviour should be joined together in joy and sorrow.

7 A traditional Balinese wedding.

8 A traditional death ceremony of the Balinese that includes the burning of the dead body and scattering of ashes into the sea or river.

9 One traditional parade that is performed in a series of *Galungan* festivities, aimed at asking God to protect the villagers' wealth, and offer them safety from the plague and other negative elements. This parade is usually through the village or villages. At the front door of every residence, the dancers stop and dance *barong ngelawang*.

Figure 4.1. Denpasar in 2014 (clockwise from the top)

(1) Patung Catur Muka is designated as ground zero in Denpasar.
(2) The atmosphere of an urban village in Denpasar.
(3) The local wisdom of *menyama braya* is implemented into aspects of life, including traditional ceremonies, such as *barong ngelawang* and (4) *ngaben*.
(5) One of main roads in the inner city (Jalan Raya Panglima Besar Soedirman).

Since the end of the 1980s, the *Indonesianised Bali* of the New Order period has been replaced by a *globalised Bali*. In appearance, this is a very different Bali, one in which rice fields have rapidly been transformed into hotels and art shops, the green and pleasant landscape turned into concrete buildings, and the once-verdant views blocked out. In the twenty-first century, the Indonesian Bali of the Cultural Tourism policy has become harder and harder to imagine (Vickers, 2012:289)[10].

For decades, the island has fascinated the world with its vigorous culture that is deeply rooted in the cults of ancient tradition and guided by a powerful religion. Accordingly, the belief system for the Balinese is their law and the force that holds the society together. It is the greatest influence upon their lives because the belief system has provided them their own ethics, culture, wisdom, and joy in living by presenting the festivities they respect (Suartika, 2010:4-5).

Economic discrepancies in parts of the world encourage significant migration between and within countries. In Bali, two types of migration occur: the first is migration in terms of global tourism; the second is internal migration by migrant workers from neighbouring islands. Tourists become part of Bali's population due to their continued presence, and migrant workers because of their prolonged stay. Both groups require physical and social amenities, as do the Balinese.

The increasing numbers of tourists and economic migrants present a major challenge to urban planning and the provision of adequate housing, given the limited capacity of the island to accommodate all groups, both socially and physically. Currently, one major problem is the shortage of affordable accommodation for the urban poor and low-income groups. Housing therefore plays an important part in life and improves the quality of life at all levels.

4.2 Housing Development in Indonesia: the Right to Adequate Accommodation

4.2.1 Housing Policies: the Nature of the Problem

The large cities in Indonesia face rapid population growth and poverty. These problems, in conjunction with a lack of adequate housing have given rise to a large proportion of the urban population living in informal settlements, or *kampung*. Over four decades, the Ministry of Public Works has played an essential role in housing production, and has organized a set of regulations and efforts for mediating with the private sectors involved in housing delivery

[10] The 2002 and 2005 bombings have endangered global tourism due to fears of international terrorism and ironically reflected Bali before the twentieth century. Since these humanitarian tragedies, the Balinese have been struggling with this new image in many ways that coincide with the complexity of Indonesia's political and economic problems after the Indonesian Revolution in 1998. The Balinese found it difficult to define their own island through former traditional perspectives. A progressive approach towards the global has motivated the Balinese to defend the essential elements of their own culture and redefine fundamental meanings of the island as ethnically and religiously exclusive, a Hindu island for those of Balinese ancestry. Thus, the Balinese icon has spread worldwide, simultaneously using their symbols and increasing their migration and mobility more globally (for more detail see Vickers, 2012:289).

systems, both nationally and locally.[11] Traditional regulatory guidelines covered price, minimum physical standards, eradication of squatter settlements, and the control of urban growth, yet this has failed to improve housing conditions among the poor (RI, 1973).

International donor agencies – in this case the World Bank, IMF and ADB – have encouraged policies based on affordability for consumers, and the national government is shifting their priorities towards upgrading existing informal settlements and to sites and services projects for low-income settlements (Dhakal, 2002).[12] However, on occasion, the government received conflicting advice from the international donor agencies that provided financial assistance for housing programmes. Subsequently, several common factors were shared by both traditional and more recent government housing policies: unique occupancy, minimum physical standards, and one-step regulation, which are not in line with individuals' behaviour in the housing market. These shape the crucial elements of housing programmes such as type and size of housing, and investment targets. These norms originated in Indonesia, however, and have been applied to this country with varying degrees of success (Sukada, 2003). Furthermore, a large proportion of urban dwellers lack adequate means to meet their needs for housing and daily nutrition. Meanwhile, the cities in which they live, ill-prepared to support their needs, suffer from a chronic shortage of resources and are thus unable to provide the necessary services. Many of these urbanites sleep on the streets, build illegal shelters, or double up in the existing squatter settlements (McCarthy, 2003:3-4).

During the 1980s, low-cost housing and settlement upgrade programmes remained two of the major policies in Indonesian housing provision, in both urban and rural areas. These policies were maintained due to their relatively affordable solutions for the poor who could not access market-supplied housing, and such policies can encourage the poor to invest more to improve their housing conditions. However, Indonesia still faces serious housing problems due to high population growth rates, high rates of urbanisation, scarcity of resources, inefficiency of housing production, the economic crisis, large-scale corruption, lack of land price control, land speculation, and mistargeted subsidies. To some extent, all schemes have failed to provide adequate housing for people at every level. Indeed, the gap between supply and demand has widened (Sukada, 2003).

Along the lines of the international declaration, the goals of national housing development are to provide adequate housing for all and to improve the quality of human settlements in terms of regional development, economic growth, and balancing urban and rural development. Urban development in Indonesia is marked by high population growth rates, a high proportion of low-income families, inequality of development among regions and a lack of housing supply for the poor. This in turn creates sporadic development of housing and human settlements in

[11] At the end of the 1970s, President Soeharto was intensely concerned about these issues. Accordingly, he separated housing delivery and its intersection programmes from public works services (infrastructure). Thus, he formed a specific ministry within a political cabinet scheme that is responsible for national government and nation in providing adequate accommodation for people. Today, this is known as the Ministry of National Housing.

[12] The *Kampung* Improvement Programme (KIP) was one successfully initiated program which enhanced the mobilisation of community participation in improving housing conditions in Indonesia. The KIP was introduced in 1924 by the colonial government in Surabaya and Semarang to prevent the spread of disease from the *kampungs* to the neighbouring middle and high-class residential areas. The scheme was remodelled in Jakarta and Surabaya in the late 1960s.

urban areas, where the need for cheap and accessible land causes difficulties for infrastructure development (World Bank, 2013).

4.2.2 Public Housing Programmes: Immeasurable Problems

Continually, millions of new households need new houses, and millions of old houses need improvement or even full reconstruction. While it is hard to be precise, it can be generally stated that housing problems in Indonesia, particularly in urban areas, are still acute. Tipple (2000) reveals that such conditions commonly occur in the Third World. He states that there are many reasons why it is almost impossible to determine the shortage of housing in the Third World, including insufficient available data and a lack of agreement among countries on units and aspects of measurement; the dynamic relationship between households and housing; and issues relating to the fact that data are soon out of date. Additionally, it takes a long time to collate census data. However, Tipple also adds that characteristics that reveal housing shortages show that there are many more people who cannot afford housing, or who obtain housing through welfare benefits, which provide them with a mix of sheltered space and services which a particular society may define as adequate (Tipple, 2000:21-23).

Housing programmes have preoccupied the Indonesian government since it was first established in 1947. In fact, the Dutch Indies government started these programmes near the end of the nineteenth century in response to strong pressure from the Dutch Parliament in the Netherlands to include the welfare of local people in governmental policy. The implementation was to include houses for local people in a new housing complex for Europeans since they were supposed to work in these communities. They had their own services and facilities, such as a market and shops, as well as a communal garden in a compound located nearby or adjacent to those of the Europeans.[13]

Such projects were halted during the Japanese occupation, but they restarted after the Japanese surrendered in 1945. The re-established Dutch Indies government continued the housing programmes with a new idea for satellite town planning and city gardens. Later, these were located either at the edge of the core city or at a distance from it, and the design emphasis was on public parks and gardens as focal points. Some of the houses encircled the public gardens, whilst some public amenities encircled the public parks, but the majority still faced the streets. There were no specific designs for local people's housing in the satellite areas because those were built for governmental employees.

At that time, there were different types of houses which corresponded to the rank of their inhabitants, ranging from the smallest to the most luxurious and from one storey to two storey

[13] The Europeans and their houses were at the front of the complex, whereas local people and their houses were at the back, which corresponded to different types of building. The Europeans had villa-type large houses, whereas the local people's houses were small and usually in a row. The local people's houses adopted the style of common domestic houses with a strong emphasis on designing formal appearances, so as to give a degree of familiarity to the inhabitants. Hence, they were usually half-brick and half-timber constructions featuring an interesting local roof form and simplified decoration. The floor plan consisted of at least one common room and two bedrooms, with separate utilities in the backyard which were open or covered by a temporary construction. These houses divided the floor directly into several rooms without any corridors, which was a common characteristic of housing design during that period (Sukada, 2003:1).

structures, as well as flats.[14] The national government took over the satellite town projects following its authorisation in 1949 and determined to accomplish completion of the project. It also provided additional types of housing by learning from housing facilities on military sites. Through funding by the World Bank, the Ministry of Public Works implemented national housing programmes such as self-help and site development and low-cost housing for poor people.

In the 1970s, the main task for the Ministry of National Housing was to fulfil the annual target for constructing public houses, particularly on the peripheries of big cities. Building classifications and types were standardized and officially regulated for all kinds of housing developments. This involved private sectors in partnership with the government. There was regulation on the ratio of housing type in one area that could be provided by private developers. The ratio of housing for high-income, middle-income, and low and very low-income groups could be respectively stated as 1, 3, and 6.

In the 1980s, there was a strong movement from Indonesian academic experts towards housing to formulate the community approach in designing and constructing public houses (Silas, 1987). A pilot project for such an approach in cooperation with Surabaya Municipal Government, East Java, even received an honourable mention from the Aga Khan Award for Architecture. Despite this, the government still pursued its initial emphasis on quantity instead of quality of living in public housing. In order to increase the number of available houses, the standard and smaller types were reduced on average from 75m^2 to 54m^2 and from 45m^2 to 37m^2, yet this was still insufficient to meet the growing need for houses in the country. Therefore, the government asked the private sector to participate in public housing programmes. They came up with cunning solutions by beautifying the frontage of the standard, small and flat type homes through superficial facades, the main objective of which was to be eye-catching. Unexpectedly, this evoked a strong positive response from the public.

These types of housing sold out rapidly, and this became a new style of living in many large cities. In turn, the government followed the trend by designing its new public housing projects according to building technology. The construction industry method had been used for the rapid development of mass housing with a modular or prefabricated system that was developed in the 1990–2000s (Sukada, 2003). Various combinations of roof forms that crown the top of the previously box-like buildings have also become a common feature in recent public housing projects, as well as additional overhanging to cover windows and balconies. Since then, that style has become a characteristic of public housing today, but it is more costly than the previous style, so it is only the middle-income communities who can afford to occupy this type of dwelling. In other words, the initial objective to provide housing for the majority of low-income people in Indonesia is still a problem to be overcome.

[14] These flats were also classified based on the rank of their inhabitants. Using a single loaded corridor that arranged the units raised the efficiency of the vertical utilities. With such an arrangement, the balcony in every unit created a grid pattern of facades on one side and bands of straight lines on the other side (Sukada, 2003:2–3).

Currently, the Ministry of Public Housing has programmes for rented walk-up flats for lower-income communities in large cities (Kemenpera RI, 2010).[15] Indonesian architects offer interesting solutions, but most of them use Western standards of living in combination with the tropical climate of Indonesia. As such, the fact that such housing must be designed for a high-density population and high building coverage is forgotten, and it is questionable whether these designs would actually solve the housing problem in Indonesia.

Figure 4.2. Rented walk-up flats for low-income groups in large cities
(left) One block of rented walk-up flats in Jakarta (Source: Aprilia, 2012)
(right) Rented walk-up flats *Urip Sumohardjo* in Surabaya (Source: Mubarok, et al., 2012)

4.2.3 Housing Conditions in Bali: the 1990s and Later

The urban housing stock in Denpasar is dominated by privately owned, traditional compounds, and single dwellings. Traditional compounds are commonly single-storey structures built in a rectangular plot ranging from 600–2000m^2 or even larger. Some of these have been turned into Western-style dwellings, often built over two or three storeys. There are at least five pavilions and a household shrine, always facing onto a rectangular inner courtyard. The pavilion is commonly full of ornamentation and decoration with high quality wood or brick carving done by specialists, and is therefore more costly per square metre. The majority of Balinese are willing to invest a large amount of money in their houses, though rarely for domestic activities. Compound houses tend to be built incrementally, a single building, pavilion or kitchen at a time. Those are small structures, but most of them become bigger than initially built, due perhaps to a growing family, improved economic circumstances and the occupants' perceptions.

[15] In 2007 the government of Indonesia launched the National Program for 1000 Towers to increase the supply of adequate housing in metropolitan cities, in the form of low-cost rental walk-up flats (*rusunawa*) and ownership of high-rise, low-cost apartments (*rusunami*). Under this programme, the central government provides tax incentives and easier acquisition of permits and infrastructure in order to reduce development costs and subsequently the rental/purchase cost of the apartments, while the local government provides the land for the project development. By 2011, 1,000 towers were expected to have been built across Indonesia.

Figure 4.3. The atmosphere of neighbourhood areas in public housing

In a multiple compound, dwellers tend to share family provisions such as the house temple, the courtyard, and sometimes the toilet, kitchen, pavilions and the like. Most houses have a tap or other water source, a toilet and electricity. The majority of households occupy dwellings or compounds as owners, owners' representatives or relatives. However, some of them are renters who live with or without the owners. It is also common for people, especially migrants, to build their own dwellings on a rented plot for a couple of years, before they can become owner-occupiers. They use rented plots or rental housing as a common milestone in the process of housing consolidation. The landlords, who are mostly local people, provide empty plots and the renters build their dwellings and acquire an infrastructure. This type of housing provision is regarded as cheaper than rental housing. They have full autonomy in the process of building design and construction, and therefore they can adjust their housing construction according to their economic and demographic circumstances.

Figure 4.4. Public housing for low-income groups in Denpasar (clockwise from the top left)

(1 and 2) Type 36 with plot size 100m^2.
(3) A vertical extension of Type 45 with plot size 110m^2.
(4) Type 21 with plot size 80m^2 for very low-income groups.
(5) A horizontal extension of Type 45 with plot size 110m^2.

Over twenty years, providing adequate single housing in Denpasar has been handled solely by private developers, who offer numerous types of low-cost housing for low and very low-income groups. Data from REI Bali (in Dewi, 2009) shows that developers provide various types of 15 to 70, with sizing of 60 m^2 to 200m^2, but the types chosen by consumers are Types 21, 36, 45 at 70m^2. Nevertheless, since 1998, Type 21 has been discontinued for being unprofitable due to rapid increases in land procurement driving up prices. At this time, Types 36, with a plot size of 80–100m^2 and 45, with a size of 90–125m^2 are the most popular housing,

particularly for low-income groups.[16] The original house plan of both types can be seen in Figure 4.4.

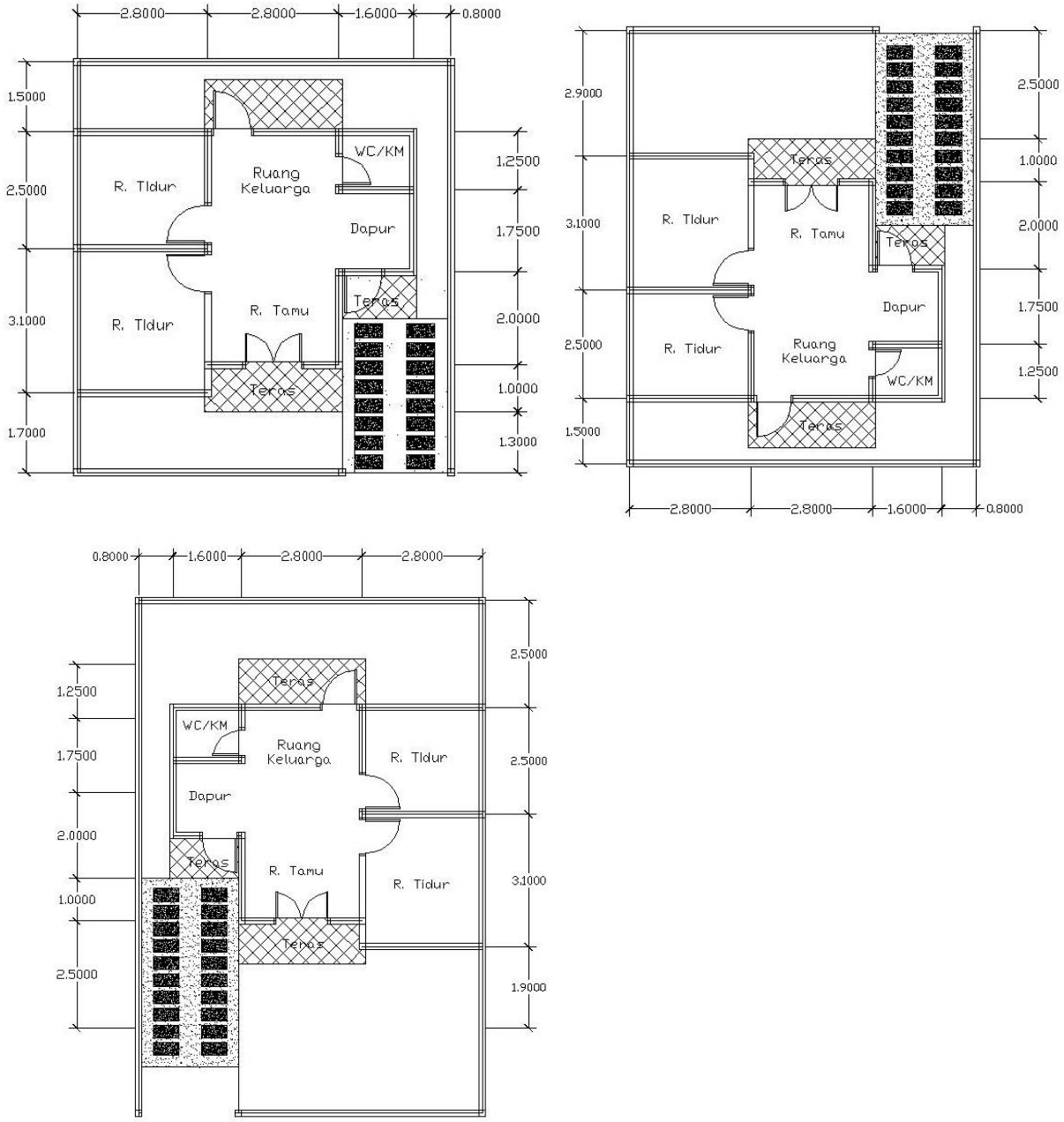

Figure 4.5. Original design of Types 36 and 45
(Source: Data from REI Bali in Dewi, 2009)

[16] In 2011, 116 private developers were registered with the Real Estate Council of Indonesia in Denpasar (REI Bali). Nearly 40 per cent of them are developers of low-cost housing, in particular providing Types 36, 45, and 54.

4.3 The Balinese Culture and Traditions

Theoretical perspectives about the concept of home from many socio-graphical contexts could be applied within this study. Nevertheless, not all of them are entirely relevant to the Balinese setting, mainly due to the socio-cultural lives that differentiate this ethnic group from others. Belief systems are one of the significant components that may influence behaviour, use of space, house layouts, and the built environment of many Balinese villages. They can help to make a house a home, particularly in terms of its psychological aspects. For instance, many Balinese believe that ancestral spirits can protect their family members and dwellings from misfortune. Therefore, within this and the following sections, the significance of such elements will be discussed.

4.3.1 World Views: the Cosmo-Religious Spatial Concepts

The Balinese believe in two worlds: "*the world they live in and the world after death; and the ancestor's world*" (Parimin, 1986:15); people live in today's life and progress to the second life after death, in the ancestors' world. According to this belief, the dead are classified into two groups: first, the dead who are not yet purified, *the pirata* and *the pitara*. Second, the completely purified ancestors who are considered as divine, or *Dewa, Dewata, Batara, or Sang Hyang* (the Sacred ones). The Goddess resides in the celestial world, high above our world, symbolised by high mountains, located in the middle of Bali Island (Covarrubias, 1937).

The Balinese live in three real worlds – the past, the present and the future – due to their belief in reincarnation. They believe in the living world and the world after death. For them, life is endless and time is circular, not linear (Budihardjo, 1995). The past cannot be separated from the present and the future, and the future is the real expectation of people, according to the *Tri Masa* principles, the dictum of 'past-present-future'. This is expressed in their dwellings and settlements, as the Balinese live with their ancestors in the houses and villages. The role of the ancestors is extremely important in everyday life, particularly when religious ceremonies are conducted.

However, unlike Westerners, who are more familiar with worlds in opposition, the Balinese live in harmony between opposing forces, keeping a balance between the two: divine and evil, good and bad, sky and earth, mountain and sea, positive and negative, sacred and profane, constructive and destructive, male and female. This is known as *Rwa Bhinneda*[17]. This society recognises these polarities not as mutually exclusive but as complementarily inclusive, not 'either/or' but 'both/and'. Hence, the centre is a very important position, as reflected in traditional house and village patterns, which is clearly demonstrated during religious activities.

With reference to the main Hindu beliefs, there is a close relationship between people, the environment, and the universe, even the Creator, within which this relationship is formulated into a concept of the psycho-cosmic.

[17] A state where two different entities occurred at the same time and interplayed as a system: see Glossary.

> *A Balinese Hinduism conception, which can be explained through symbols of the spiritual world within the sphere of the physical world* (sekala) *and its relation with the metaphysical world* (niskala) *in a way similar to the relations between the* bhuwana alit *(microcosm) and the* bhuwana agung *(macrocosm).* (Samadhi, 2004:105)

The human body is analogously implemented from the world of the microcosm, which is differentiated from the universe (macrocosm). Therefore, this concept highlights that people should harmonise themselves with the universe, or vice versa, or even that people may be seen as the universe (Eiseman, 1990a; Khambatta, 1989). This is because both are formed from the same elements of *Panca Maha Bhuta*[18].

The concept of *Panca Maha Bhuta* is reflected in how the Balinese have organised and conceptualised their built environment (Samadhi, 2004). Environmental design reflects the cosmic conception of both Hinduism and Balinese tradition. Like the universe and human beings, the environment has three basic elements: the physical element (physical territory), the soul (temples, shrines), and the energy (communities). These things are the sources of happiness, called *Tri Hita Karana.* This inspires the formulation of *Tri Angga* which qualitatively structures a space into *Utama* (sacred, upper space), *Madya* (neutral or middle space), and *Nista* (profane, lower space). Additionally, *Tri Angga* is also implemented into buildings: *Utama Angga* (roof), *Madhyana Angga* (rooms, walls), and *Kanista Angga* (floor, sub-structure).

Additionally, the Balinese are highly conscious of orientations, both in everyday life and in the construction of buildings (Waterson, 1997). They also perceive the space relating to their religious experience, not as *homogeneous*, neutral, geometrical, Euclidean space, but as a space with a unique ontological status – a sacred space. This space has various values and various directions of sacredness. Parimin (1986) explained that there are two pairs of cardinal directions: *kaja-kelod* and *kangin-kauh*. Consequently, the Balinese establish their dwellings and villages in accordance with their worldview. Two pairs of cardinal directions generally lead to the arrangement of the spatial structure of the compounds in the Balinese house. Balinese dwellings from every village are obviously analogous, but every village has its own ways, its own culture distinct from the others. There is no single description that can fully describe the variations in the villages.

Kaja and *kangin* have the same connotations of the sacred or upper world, while *kauh* and *kelod* are recognised as the profane or lower worlds. The spatial organisation of settlements and houses is dictated by this world view. This is no more than a basic description of the very complicated Balinese spatial organisation. Parimin also states that there is no single description that can explain the various Balinese settlement concepts. Both directions conceptually arrange the spatial structuring system, known as *Sanga Mandala*[19] (Samadhi, 2004:105): see Figure 4.6.

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18 The three causes of goodness in harmony: relationships between people and God *(parahyangan),* people and people *(pawongan),* and people and the universe *(palemahan).* This harmony is the source of a peaceful heart and mind for humans.

19 A 3x3 spaces composition, literally means 'nine-folded hierarchical space. The hierarchy goes within the sacred-profane continuum, which is from *utamaning utama mandala* or the most sacred section (first hierarchy) to *utamaning madya mandala* or the second most sacred section (second hierarchy), to the last or ninth hierarchy, *nistaning nista mandala* (the most profane section).

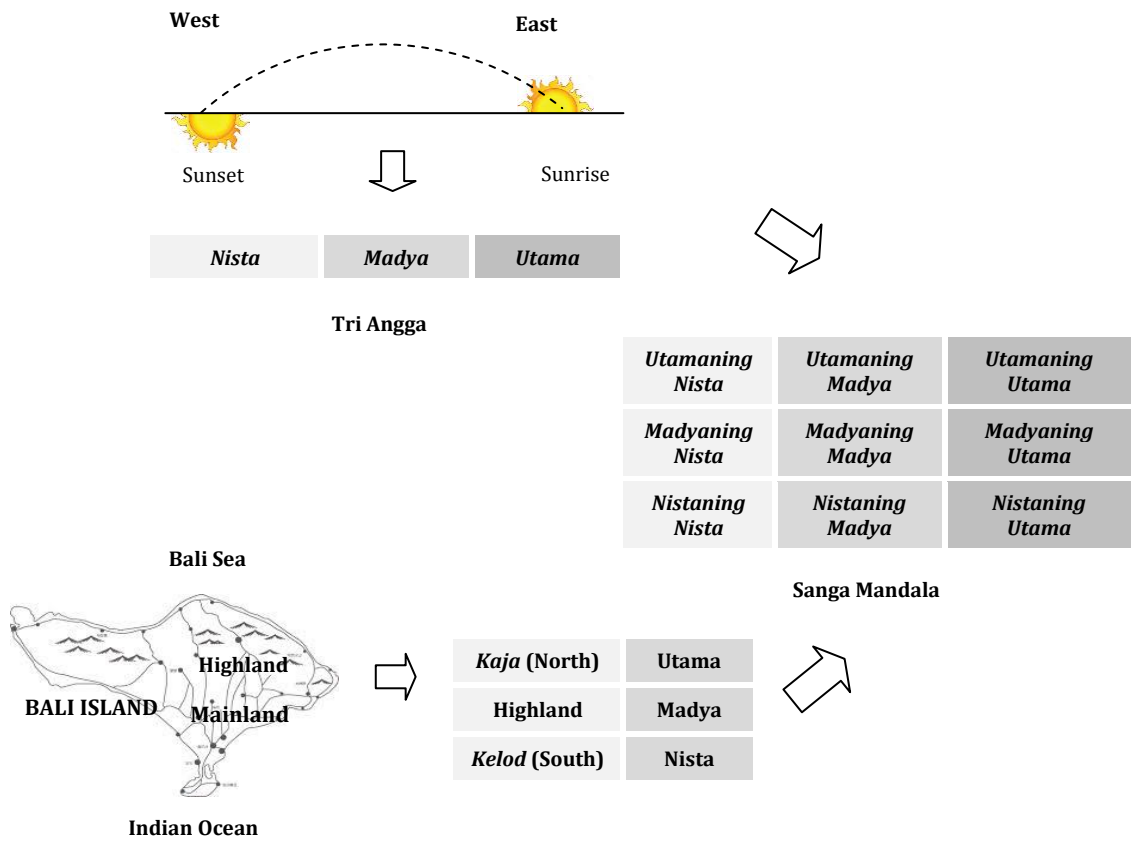


Figure 4.6. The two pairs of cardinal directions
(Source: developed from Budihardjo, 1995)

Nevertheless, the above arrangements will differ in detail according to the operative local knowledge system, or *Tri Pramana*, i.e. the 'place-time-situation' dictum. Therefore, with reference to Samadhi (2001), the above world views are the Balinese Hinduism conceptions of space and the core-periphery continuum order, which reflect their degree of importance in the contemporary Balinese spatial formation, whereas *Tri Masa* and *Tri Pramana* are local knowledge systems for those views. This, then, will provide the setting of the discussion on the attempt to create *the cosmo-religious spatial concept.*[20]

[20] More detailed information can be found in Samadhi, 2004, 2001; Budihardjo, 1995; Parimin, 1986.

4.3.2 *Desa Adat*: the Cosmos of Balinese Hinduism

Within Balinese human settlements, the cosmological interrelationships can be fully observed in the existence of a *desa adat*, or customary village. This settlement unit is considered a distinctive cosmological unit which is composed of a particular territory, – or, in Geertz's words (1980:45): *"the* desa*, was a self-contained, cosmologically based organic unit... of indigenous Balinese culture."* The structure of a *desa adat* in Bali is based on a common fundamental conception of *Tri Hita Karana* in a *desa adat* unit: *parahyangan* (the God-worshipping places), *pawongan* (the *desa* dwellers), and *palemahan* (the *desa* lands or territory).

Desa adat generally possesses spatial structural patterns and its membership is defined by the *Tri Kahyangan*, which consists of *pura puseh* (the navel temple or the temple of origin), *pura desa* (the village temple), and *pura dalem* (the temple of the dead). Each of these comprises an indivisible unit, and they exist all over Bali. Thus, the social and moral unity of the village domain is represented conceptually by this triad of temples (Barth, 1993:32).

Table 4.1 The elements of *Tri Hita Karana*

Container	The Soul *(Atma)*	The Energy *(Prana)*	The Physical Elements (*Sarira*)
The universe	▪ *Parama Atman* (the Creator)	▪ All power to move the universe, e.g. planetary movement	▪ *Panca Maha Bhuta* (the five elements of the universe)
***Desa adat* (village)**	▪ *Tri Kahyangan* or *parahyangan* (the God-worshipping places)	▪ *Sima krama* or *pawongan* (dwellers or villagers and their activities)	▪ *Palemahan* (settlement or village territory)
House	▪ *Sanggah* (house temple, shrines)	▪ The dwellers	▪ Dwelling unit with its yards
Human being	▪ *Atman* (the soul or spirit)	▪ *Perana* (energy)	▪ *Sarira* (human body)

(Source: Samadhi, 2001: 565)

As Waterson (1997:45) observed, traditional villages are regarded as the village of origin or the 'old village', which has strong associations with the forefathers. All Balinese are bound to at least one village, where they have their own house of origin within which all of their religious ceremonies are normally conducted. Every household head is a member of one customary village, usually the village of origin even though they may live in an urban area or far away. The house in the village of origin and the village itself are therefore not just physical territories or properties, but also have very strong social and religious significance.

However, it should be borne in mind that this is just the most common general structure for the Balinese village. As Parimin (1986) points out, each village in Bali is unique. In other words, there is a great variety of villages in Bali, in terms of their structure, spatial organisation and morphology: therefore, he insists that no single explanation can be offered to elucidate the complexity.

4.3.3 Socio-cultural Lives: Multi-layered Culture

Balinese culture has been influenced by various nations and cultures, with varying degrees of intensity. The Indian culture is prominent, but there are also Chinese, Moslem and Western influences. Eiseman (1990a) wrote that caste is the least understood aspect of Hinduism. In Bali, the caste system has become one of the most interesting topics of discussion, especially among parties that support or oppose it. He observed the dynamics of Hinduism in Bali in terms of *caste* conflicts between two opposing groups during the era of modernisation. As he points out, modernisation has contributed to the change in social stratification practices. Traditional social class affects the spatial organisation of the built environment, particularly in house building. The name of the dwelling for every class and the structure of their dwellings, the pavilions or buildings that may be constructed, the ornamentation, etc. could be an indicator of social status.

In the modern era, where democratisation has been introduced into the social life of the Balinese, society has become more mobile, both horizontally and vertically. Social classes are becoming more open, in contrast with the closed traditional system. Although caste practices are no longer dominant, issues and problems sometimes still emerge in the current situation. Irrespective of religious practices, the caste system in Bali has generally been weakening. Skills, professionalism, prosperity and other modern attributes are more important than the previous privileges from the caste system. Besides social life, these changes also affect how the Balinese perceive, build and use their settlements. In this period, contact between the Balinese and other cultures through modernisation or *westernisation*, and tourism have become more intense, with both positive and negative consequences (Griya, 1995). Building technology, materials, building typology, construction management, building morphology and the like have been expanded, and these greatly affect housing planning and design, including building construction. The Balinese have absorbed foreign culture and tradition, and have synthesised them into their new way of life and new ways of constructing and organising the built environment.

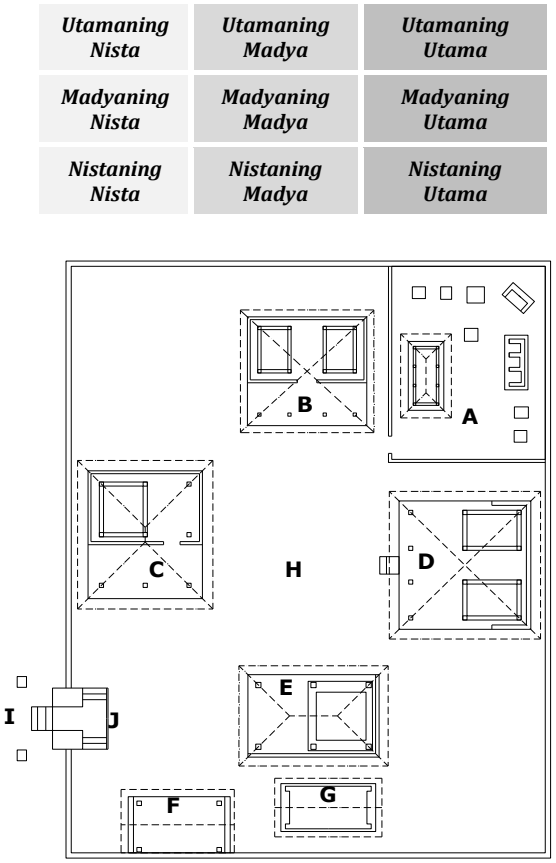
4.4 The Traditional Balinese Houses

4.4.1 The Spatial Structure of the Compounds

Silas (1997) argues that one reason for the failure of housing schemes in Indonesia is the application of inappropriate concepts to a house. Under the United Nations and other international advocacies, a house is merely defined by its physical aspects, as indicated in housing programmes. Tipple (1994) were also concerned that translating the word 'house' into the local language would inevitably prove problematic. In order to define proper housing policies, it is therefore important to identify the most appropriate local terminology applicable to a house.

In Bali, there are several terms which denote a house, such as *umah*, *jero*, *puri*, *grya, pondok*, *bale*, *kubu*, etc. Each term has its own meaning, such as building, house, home, village, island, territory, state, the earth, globe, institution, kinship, place, dwelling, settlement and the like (Sueca, 2003). *Umah*, *jero*, *puri*, and *grya* all refer to houses for different social groups: for the

common people, noble families, the king, and for priest families, respectively. These terms may refer to family houses or compounds, housing units or buildings, and, in a metaphorical sense, define units of kinship and origin. *Umah* and *bale* may be used interchangeably to indicate buildings. A compound is an *umah* within which one or more households reside, sharing some common facilities, while each household may also own a house unit in the compound. A household shrine is almost always provided within a single dwelling or compound. These houses are multiple compounds, in which each compound accommodates a specific activity that follows the spatial hierarchy: see Figure 4.7.



A *Sanggah* or *Pemerajan* (house temple)
B *Bale daja* or *bale meten* (sleeping area for daughters or area for giving birth)
C *Bale dauh* or *bale tiang sange* (sleeping area for parents)
D *Bale dangin* or *bale sakepat* (open pavilion for preparing ritual processions and sleeping area for sons in the night)
E *Bale delod or bale sumanggen* or *bale sakenem* (working area)
F *Paon* (kitchen)
G *Lumbung* (granary)
H *Natah* (the inner courtyard)
I *Lawang* or *pemesuan* (entrance point)
J *Aling-aling* (a barrier wall)

Figure 4.7. The implementation of *Sanga Mandala* within the spatial arrangement
(Source: developed from Budihardjo, 1995)

4.4.2 House or Home: Terminology for the Balinese

In understanding meaning in the built form, Waterson (1997:xvi) quotes Rapoport: "… *meaning resides not in things but in people: people want their environment to mean certain things*", and those meanings are latent and associational, rather than manifestly functional. The following sections examine the concepts and meanings of the house for the Balinese in order to understand how they define, perceive, conceptualise and use the house.[21]

1. A Cultural Category

> *The house, as a physical entity and as a cultural category, has the capacity to provide social continuity. The memory of a succession of houses, or a succession within one house, can be an index of important events in the past.* (Fox, 1993b:1)

Fox observed that in South-East Asia the house does not just constitute a physical domain, but can also signify the group of people who claim membership of it, or *house societies*. The role of the house as a temple or the dominant function of a compound as a place to conduct ceremonies, particularly in Balinese societies, undoubtedly supports the argument that a house is more than just a dwelling and is culturally and socially constructed. The house is the key concept in categorizing social groupings or kinship patterns.

2. An Animate Entity

In many Austronesian communities, a house is conceived as an animate entity, either through rituals during the construction process of the house, or through elaborations of body symbolism and anthropomorphic imagery. Waterson (1997) quotes Howe (1983), who wrote that buildings are considered as living things by the Balinese, although he found some difficulties in explaining in what sense buildings are regarded as being alive (Budihardjo, 1995:34; Fox, 1993a). The Balinese believe that, like a human being, a building has a head, body, feet and a soul. This practice is based on the Hindu philosophy of *tat twam asi,* meaning "*You are that*" (Eiseman, 1990b:18). Other applications or realisations of this ethic can be seen in every aspect of the Balinese cultural system; for example, the way the Balinese dress buildings is the same as the way people dress themselves.

The process of building construction is full of ceremonies, from the beginning (digging a hole for the foundations) until the first occupation. This is part of the ritual harmonising process necessary between the dwellers and the dwelling. The final ceremony, called *mlaspas,* is a purification rite that "*brings the building to life*" (Eiseman, 1990b:199). This process imitates the myth of the creation of the universe through sacrifice (Khambatta, 1989:14). In addition, Eiseman (1990b) notes that the adjustment in building measurement called *urip,* which means "*bring to life*", recognises the building as a living entity.[22] In other words, for the Balinese a building, like a human being, consists of the same structure and elements: the body, the soul, head, and feet.

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[21] This discussion mostly refers to Sueca's works, 2003; and is supported by some additional sources: Budihardjo, 1995; Waterson, 1993, 1990; Eiseman, 1990a, 1990b; Parimin, 1986; McPee, 1979.

[22] Further information on Balinese building constructions can be found in Kagami, 1988.

3. The Importance of the Cardinal Directions

> *Direction is instrumental in the West… but orientation is exceedingly important to the Balinese. In Bali, a direction describes a vector not just in physical space, but in cultural, religious and social 'space' as well. As a result, every Balinese seems to possess a built-in sense of direction. And if for some reason this feeling is lacking, the individual is visibly uncomfortable and disoriented.* (Eiseman, 1990b:2–3)

> *Thus the Balinese perceive the space according to their religious experience, not as 'homogeneous', neutral, geometrical, Euclidean space, but as a space with a unique ontological status, a sacred space. (Parimin, 1986:16)*

The above quotations show how the Balinese recognise space; however, they are not exclusive. Khambatta (1989) suggests that order is one important characteristic that differentiates traditional society. It is a sense of coherence in every aspect of life, which draws from a common knowledge of origins. The creation myth of the universe usually serves as the source for organisation – not just settlement, dwelling or territory, but also society, dwelling and family.

In Bali, space has multiple values and directions of sacredness. The most sacred direction is mountain ward, called *kaja,* where the gods live. It is towards this direction (mountain ward) that the Balinese position their temples, their heads when they sleep, their faces when they pray, and the most sacred pavilion in their compound. This idea was influenced by Indian Hindu mythology, which regards the mountain as a holy place, and the centre of the cosmos. The opposite (seaward) direction, called *kelod,* is profane. The second sacred direction is toward the sunrise, called *kangin* (east), and its opposite is called *kauh* (west). Balinese traditional houses are planned with multiple orientations which acknowledge the mountain and sea directions, the sun rise, the sky and earth orientation, and with regard to internal orientations such as the inner courtyard. All buildings in the compound will face onto this space (Budihardjo, 1995; Eiseman, 1990a, 1990b; Parimin, 1986). The inner courtyard, called *natah* acts as a ritual attractor around which most activities take place and are organised.

4. Domestic and Public Spheres: Two in One

Most literature on housing has viewed the house as merely accommodating domestic spheres and as the domain of women. This is distinct from the public sphere, which is dominated by men in the production process. This gender division is usually used to analyse the organisation of space and social structures. Women are recognised as having a subordinate role that should be excluded from public or ritually important areas, and retained within a domestic sphere that is merely the domain of reproduction and consumption: by definition the place of the powerless. Meanwhile, the men are superior, independent, powerful, and dominate the production and public spheres.

In Balinese dwellings, there is no strict separation of spatial use based on gender differentiation. Dwellings are used for domestic and also ritual activities, in which both men and women take part. In many ways, women have a significant role in preparing and performing ceremonies, particularly in making offerings (McPee, 1979).

> *For a month the women of Nyoman Kaler's household had been busy, like the women of every other household in the village, in preparing the offerings, the endless cakes, fritters, sweets, and ceremonial objects made of palm leaf. ... The morning mist was still in the air on the day of the feast as one by one the men came out of their doorways and walked towards the temple, to begin the festive cooking. It was not long before the courts were in turmoil. Soon there was the sound of chopping as groups of men prepared the spice, the sound of soft scraping as they grated huge mounds of coconut* (McPee, 1979:46).

The above quotation shows the typical complementary roles of men and women in Balinese society. This practice of collaboration among men and women is the same whether in the village temple, household temple or kinship temple. Cooking is not dominated by women, just as rituals are not dominated by men. As Waterson (1997) points out, the separation of public and domestic domains is culturally specific. Therefore the concept of domestic and public domains and the activities which occur in these spheres should be re-examined, in order to fit this concept into the local culture.

5. Houses as Units of Kinship

Waterson (1997) observed social life and the organisational aspects of architecture in the Austronesian world, which yielded new insights bridging architecture and anthropology. One key concept, among other important key points necessary to understanding Austronesian houses is the function of the house as a unit of kinship. She argues that rather than being merely a physical structure, the house in this community constitutes the "*group of people who claim membership in it*" (Waterson, 1997:224). This idea is closely related to the function of the house as a ritual site, or the village of origin (see also the following section concerning the house, temple and house temple).

As ritual sites, the Balinese trace their ties to and through houses. The structure and the position of houses in social ties in Balinese society have been observed by Lansing (1983:107) even though his categorization can still be debated (see also in Sentosa, 2001; Geertz and Geertz, 1975). The status of the house can also be traced through the status of the household temple within the house.

6. A Ritual Site

Waterson (1997) suggests that the ritual functions of a house cannot be separated from the house identity: "*What are sometimes referred to in older literature as 'temples' were in fact, simultaneously inhabited houses of a kin group*" (Waterson, 1997:46). In addition, what is sometimes regarded as a temple is part of a house, or house temple.

The Balinese use most parts of the house to perform ritual ceremonies, including *lebuh* (space in front of the house gate), *natah* (inner house yard), *bale* (pavilions), and *sanggah* (household temple). The central usage of the house for ritual sites has led to the rationale of immense *investments* being made to maintain that structure, even though it is not frequently used. For example, the Balinese build and conserve their pavilions and the household temples, which are most used for religious ceremonies, with wooden carvings and expensive finishes.

Above all, sacred home-making within the Balinese house exists within sacred elements, such as domestic installations (e.g. *pelangkiran*[23], holy room, statue, *pelinggih*), rituals (daily praying and occasions customary activities), and domestic spatial arrangements with a cosmological disposition (determining hierarchy of space, sacred and profane spaces, positioning a house towards appropriate orientations). For them, a house has a spiritual dimension. These cultural customs certainly affect dwellers' behaviours and the domestic built environment to greater or lesser extents in both rural and urban locations, highland and mainland. Interestingly, they remain grounded in Balinese culture and are passed along in terms of the design and arrangement of contemporary houses; although the latter are styled with Western influences, the residents' living conditions are very different, and people conceive of and interpret them in a variety of ways. Many sacred symbols of the worldview within the domestic area have also gradually decreased throughout the process of modernisation and globalisation.

4.5 Conclusion: A Miniature of the Complexity

Since the boom in cultural tourism in the 1980s, global culture and development have driven socio-cultural change in Denpasar. These changes are dynamic processes that influence multiple sectors of life. On a local scale, these phenomena present a big issue: life and the continuity of local traditions on one side, and development or globalisation on the other. This phenomenon also inevitably motivates changes in house layouts and the use of space. The occupant(s) are continually confronted by the above phenomenon, either in terms of preserving local traditions or transforming and changing aspects of life. Additionally, these people need to face, select, adapt, adopt or reject the *new* elements since there are interactions between the cultural processes of the occupant(s) and the physical housing changes over time.

The research locations for this study could be considered as a miniature of the above complexity. All cases studied appear to reflect the general problems of the socio-cultural changes in this city. In other words, they demonstrate the nature of interactions in parallel with the occupants' socio-cultural lives and their impact upon the process of transformation. Dovey (1985:42) states that *"home is a place where our identity is continually evoked through connections with the past"*; this implies that there are some links between the home of the past and that of the future.

It is emphasised in this conclusion that the research locations embrace many interconnected phenomena, events, activities, and physical objects to form a related system. Rapoport (1990) provides detailed descriptions of systems of activity and systems of settings that meaningfully connect humans, space, and time. Space in the house and its form, as well as the quality of spatial and symbolic elements, are a manifestation of a way of life and the realisation of cultural practices (Rapoport, 2005, 1969).

[23] A sacred shelf: see Glossary.

The question, then, is how to relate the various activities, events, and above phenomena in the framework of a system. In order to find such connections, Chapters 5 and 6 will explain in greater depth the various phenomena, activities, events, and physical changes within the houses. This concerns the nature of the interaction between the occupants and their urban dwellings during the process of transformation. Thus, this is also the process of how housing transformation articulates specific aspects of the socio-cultural lives of the occupants of urban dwellings in Bali.

chapter 5

The Process of Inhabiting: Becoming at Home

Chapter 5. The Process of Inhabiting: Becoming at Home

That people could come into the world in a place they could not at first even name and had never known before; and that out of a nameless and unknown place they could grow and move around in it until its name they knew and called with love, and called it HOME, and put roots there and love others there; so that whenever they left this place they would sing homesick songs about it and write poems of yearning of it ... and forever be returning to it or leaving it again!

(William Goyen, the House of Breath, 1948, p.42)

The Process of Inhabiting: Becoming at Home

Exploring the Circumstances

Why was Putu so attached to her house? How was it that Komang loved his house and Made felt sick every time she was away? Why does Wayan continually want to improve his house? Why did Nyoman buy and change the house that seemed like the perfect dwelling? Why did Ketut love her house and how does she express her self-identity through that love? How does Gede prepare his house in anticipation of his future needs? These kinds of questions have fascinated me during the study. I set out looking for answers and was often stunned by what I discovered. This chapter is about the Balinese and their dwellings in the process of becoming at home.

Housing and its processes involve the occupants in physically changing and improving the quality of the home. Many experts who study these processes argue that such involvement and transformation often result in the production of satisfactory and adaptable residential environments (Tipple, 2000; Tipple et al., 2000; Smith, 1994; Seek, 1983). Additionally, rapid changes in lifestyles increase the demand for improvement in quality. People usually have the option to move or to stay and make changes through home improvements (Nguluma, 2003; Tipple, 2000; Morris et al., 1976). In recent years, these improvements have mainly been made to accommodate the needs and spatial demands that result from the inadequacies of the existing houses.

Even though housing delivery, at both the national and the local government levels, tends to focus on the quantity of housing units that should be provided, housing for all humankind means something more than merely shelter. Housing plays different social, cultural and economic roles in its effect upon inhabitants' lives. At the same time, its production, form, and use are influenced by the occupants' socio-cultural and economic characteristics (Silos, 2007;

Arku and Harris, 2005; Turner, 1981). Furthermore, from a social perspective, housing influences and reflects the socio-cultural context relating to lifestyle in terms of modernisation and societal wellbeing (Cameron and Field, 2000; MacLennan and Bannister, 1995). Concerning these notions, the Balinese also give consideration to the built form, which includes the house. They believe that a house has a life, which consists of physical and spiritual elements. This underlines the concept of a house as a process rather than a product (Turner, 1976). Therefore, it seems necessary to investigate this process. The first chapter of this analytical part aims to answer the first question of the study. This chapter highlights the inquiry into the process of housing transformation in terms of the nature of the interaction between the occupants and their houses in order to deliver a basis for achieving the study's first objective. This aims to explore housing transformation in practice that has been instigated by the occupants in order to improve housing quality and to anticipate their eventual housing needs in the process of becoming at home.

Discussions in the literature review in Chapter 2 provide a conceptual framework for the analysis. Data from fieldwork enriches this analytical aspect. For the purposes of analysis, all cases provide general information on possible themes and may indicate common tendencies in the area under consideration. Additionally, some specific cases offer detailed explanations that could support further understanding of the themes.

This chapter is organised into four main sections. The first section investigates the main issues connected to fulfilment of housing needs, which creates a dilemma for the urban-Balinese concerning the choices and constraints involved with improving their houses, and the circumstances of the inhabitants which could place constraints upon those choices. The second section discusses how the occupants adjust their housing construction as a way of creating change and improvement. One of the factors of this adjustment relates to the overall satisfaction which results from self-initiated transformation. It explains how housing consumption over time increases due to the need for various spaces for the activities that are typically conducted in the house, why changes are made, and the processes and effects of these adjustments. Another aspect is detailed in the third section, which explains home preferences, how the attributes of the house make a house into a home, and how the house is able to meet the present needs of the occupants. The fourth section discusses some of the issues that may arise if transformations are to be planned not only for the present, but also to anticipate future needs, in order for the house to become the ideal future home. The housing process continually changes as it follows the changing needs of the occupants. All sections draw on the literature review and experiences in the field and these are brought together in the analysis. The chapter ends with some preliminary conclusions from the initial analysis, which will be explained and expanded in another part of the concluding chapter.

5.1 Housing Satisfaction: Between Choices and Constraints

Scholars and researchers commonly use two main perspectives when considering the extent to which the housing needs of people are satisfied (Abdalla, 2007:27). Abdalla stated that the first perspective deals with housing needs as a quantitative matter, whereby a certain number of dwellings must be provided to satisfy demand. Based on this perspective, housing could be considered sufficient and adequate if the supply of housing meets the quantitative demand in

terms of households. In contrast, the second perspective sees housing needs from a qualitative point of view, whereby certain socio-cultural and physical attributes have to be provided in the residential environment in order to fulfil housing needs in terms of socio-cultural characteristics, aspirations, and lifestyle factors.

Occupants more or less continuously evaluate their houses to consider whether they accord with their needs. Thus, inhabitants are seen to be engaged in a dynamic process of evaluation of the house quality. Adjustment tends to occur whenever the inhabitants needs deviate far enough from the housing provision to significantly reduce housing satisfaction; a reduction in satisfaction therefore occurs if a problem is perceived involving a condition that is relevant to the inhabitants (Morris et al., 1976:309; Morris and Winter, 1975:83). If the house fails to meet the occupants' normatively derived needs, a normative housing deficit is said to exist. If the deficit is both perceived and noticeable, dissatisfaction is high and a propensity to reduce the deficit develops (Morris et al., 1976:309).

In brief, as Seek (1983:456) has argued, the final decision to make a housing adjustment is realised as a two-stage process. The first stage is the decision to adjust housing consumption, and the second stage is making a choice between either moving, improving, or a combination of both. The first decision results from a mismatch between consumption and demand, whereas the second depends upon the balance of costs and benefits related to each alternative.

5.1.1 Housing Gap: Stress Mounts Over Time

The process of evaluating house quality could possibly indicate a gap between the actual and the preferred level of housing consumption. The occupants may have some housing preferences that are not provided by the current dwelling. Dissatisfaction or stress accumulates incrementally, and at a point in time, this dissatisfaction will reach a critical level, at which a decision will be made on the best course of action to bridge the gap.

In most cases, this phenomenon designates a gap that can be brought about by a variety of influences, such as changes in housing demands. These changes mostly arise from changes in the household's demographic make-up. During the early years of an urban Balinese family's development, children are born and grow to maturity. In the later years, children leave the household due to marriage. These changes in family composition and size imply changing spatial requirements and desires. The family life cycle modifies the needs, desires, and abilities of the family. Thus, an adjustment is needed in order for the house to be suitable. I Wayan Sugiatma, illustrates this:

> *[...] the original house design was small with one bedroom. It was inadequate for my family when the children were born and my family was growing. [...] we needed more spaces for entertaining visitors, having meals together, hanging out the clothes, and other domestic activities. Moreover, the children wanted separate bedrooms when they were teenagers [...]. It was impossible to ask them to sleep in the one bedroom [...] One day, my daughter decided to pursue her studies in Surabaya, so it was only my wife and I who lived in this house. The eldest son has been married for two years and lives in his own home [...].*
>
> I Wayan Sugiatma, 67 years old, 29 July 2011

Evidence from case studies has also consistently shown the life cycle to be a major determinant of housing adjustment over time. Thus, the family life cycle is ascribed a prominent role in housing needs and desires generated by changes in the size of the family and family composition. Gosling et al. (1993) call the family life cycle a *trigger* for housing consumption over time. The following testimony of Ketut Sudana, who lives in a traditional house, describes this phenomenon:

> *According to the Balinese inheritance system, maintaining the house should be the responsibility of the son […]. Consequently, my father customarily deserved to live in this house. Meanwhile, owing to marriage, my auntie moved out to her husband's house in another place […].*
> *My father was the eldest son and had four brothers […]. After my grandfather passed away around twelve years ago, my father divided the yard into five parts. Every son took one part […]. Since 2001, two of my brothers have got married and have been in new couples. Then, they had children, who are growing up […]. At the same time, I was taking care of my parents […], while another two of my brothers had a couple of children […]. All built houses in their own plots. Accordingly, here we have many compounds that have been occupied by five households […].*
>
> Ketut Sudana, 57 years old, 7 August 2011

Additionally, evidence from low-cost housing highlights an alternative scenario, in which a younger householder buys a house, lives in it for a long time, and makes improvements to it when the desired level of housing consumption changes. I Ketut Gunawan describes an example of this:

> *Living with your parents in a rural area after being married seems like an appropriate decision […]. However, I like independence. My occupation also requires a house in Denpasar […]. As a result, I bought the house in 1999 […] and brought my wife here to settle. It was a low-cost house of Type 21, which consists of one bedroom, a narrow front veranda, bathroom, and open kitchen at the rear […]. Two years later, my first son was born, and the next child in 2004. [...] As my family has grown up, the number and scope of activities in the house has increased […]. I decided to extend the house in 2008 […] and altered the layout […]. Then, in 2010, I moved the shrines from the corner of the area to upstairs […].*
>
> I Ketut Gunawan, 43 years old, 12 August 2011

Ultimately, most cases show that the composition of the family is a fundamental determinant of housing needs. Different urban dwellings are required by a new and childless couple, with both husband and wife being gainfully employed; by a family with an infant and children under school age; by a family with adolescent or adult children; and by older couples who have ceased involvement with any kind of occupation or are retired. Nevertheless, two of the life-stages most influential upon housing consumption are the stages of partnering and the entry of children into school. In the stages of partnering, family size will possibly grow from that of a new couple to a family with children, with a resultant increase in housing needs. Children under school age later require more space because they become adolescent and expect private rooms. This fact accords with the findings of other researchers (Seek, 1983; Morris et al., 1976; Chevan, 1971).

5.1.2 A Choice: To Improve Or Not

Inhabitants' options for adjusting their housing consumption by moving or improving are seen as a major effect of the environment upon the behaviour of inhabitants. The alternative available to people in adjusting their housing consumption in order to satisfy their housing needs is often a choice between improving or moving, or both (Clark et al., 2006).

Those options arise from changes in the demographic factors of the occupants and their economic circumstances (Mayo, 1987; Dynarski, 1986; Seek, 1983). However, it has been argued that people do not move unless the relative advantages of the new residential environment exceed those of the existing residence (Dieleman and Mulder, 2002). This shows that a decision is often made after assessing the relative costs and benefits of the alternatives of either moving or improving. The costs of adjustment include financial costs and psychological consequences, such as losing socio-economic ties and cultural attachments to the existing housing environment. No action may be taken with regard to moving if the perceived benefits from a decision to adjust housing consumption by improving are lower than those gained by the existing housing conditions. If adjustment is achievable through either moving or improving, Seek (1983) believes that most occupants will improve. The main weakness of moving is the high cost. Inhabitants who improve their houses mostly consider making good the physical shortcomings in their dwelling, but this is hard to prove. Improvement is normally required due to changing housing needs and preferences.

In interviews in the field, all occupants stated that improving the house was a better decision than moving to another place with regard to achieving housing satisfaction. This is due to the fact that occupants who live in low-cost housing believe that after moving to a new place, they will lose the benefits of their existing residential attachments, such as economic ties and social bonds. A statement from I Ketut Tomi illustrates the reason why he improved the house:

> *[…] Father had a business in computer service and maintenance […]. Those activities were done in a 60 m²house. He repaired hardware in the living room, while monitors and spare parts were on the floor […].*
> *The business expanded later into internet games and purchasing […]. Such activities, therefore, needed more rooms, like office, computer shop, display room, storage, and bedrooms for house workers […]. At that time, we thought carefully about whether to either improve the house or find another place […]. However, my family preferred to improve. The main reason is that this house is located in a strategic area. If we moved to other place, we would have lost the economic ties and social attachments of our existing house, and had to start everything from scratch. […] We believe that we are in a good area with pleasant neighbours […].*
>
> I Ketut Tomi, 34 years old, 19 August 2011

Other reason the occupants could have a preference for improving the housing layout is due to considerations of the financial costs. Gede Ardana has been married since 1996 and bought a low-cost house in Pesona Pancoran, South Denpasar, in the same year. As a new couple, they had to be content with the location of the house at the beginning of their married life. Then, as he explains further:

I have to meet the expense of this house in monthly instalments for twenty years. It costs approximately three-quarters of my salary […]. Improving the house seems a perfect choice since there is no extra money available for moving […]. It can be said, moving needs additional finances for land and new buildings […].

Gede Ardana, 39 years old, 26 August 2011

Meanwhile, all of the cases in traditional compounds agree that moving is a disagreeable decision with regard to maintaining the existing house as the *house of origin* of the extended family. Cultural reasons come into play here in terms of choosing to improve traditional compounds. Subsequent generations prefer to maintain the existence of the house. The basic argument can be found in an interview with I Gusti Ngurah Oka Putra below:

There is no possibility to move out […]. We have some sacred spaces here, such as the family shrine, granary, a sacred pavilion and kitchen. All of them have important roles in maintaining the spiritual elements of the house […]. Our life started from this point […]. The ancestors have been placed in the family shrine. My family believes the ancestors are immaterial parents who guide us our whole of lives […]. Therefore, we have a responsibility to keep this house in the manner it must be […].

I Gusti Ngurah Oka Putra, 68 years old, 28 July 2011

However, interestingly, most inhabitants who live in low-cost housing would like to move to the *kampung* (house of origin) after retirement. With regard to the Balinese patriarchal system, men have a responsibility to sustain the relationship with the ancestors. They also respect tradition and the existence of the ancestors throughout their lives. Tjokorda Made Atmaja explains this phenomenon:

[…] I will retire from my job in two years […]. Since my eldest daughter is married and lives with her husband in another place, my youngest daughter will possibly take over this house. My wife and I would like to stay and spend the rest of our lives in Ubud, *my hometown […]; keeping the tradition is the main reason [...], [...] festivals, praying in the family temple, weddings, funeral […].*

Tjokorda Made Atmaja, 54 years old, 29 July 2011

According to the above interviews, if the total benefits and relative costs involved in transforming the house are less than those derived from the original house, less effort tends to be made in terms of adjustment. In this case, the total benefits may include socio-economic ties and cultural attachments. When the occupants cannot modify their existing dwellings for any specific reasons, moving is the only alternative. Such reasons may include a desire to change location or a drastic reduction in the size of the dwelling. If improvement is needed to solve housing stress, there is no concern about moving. In some cases, the occupants have only two options – move or improve. If the location of the dwelling must be changed, moving could be an appropriate option. In contrast, if only minor improvements are needed, for example replacing the water system, moving will not be considered. All cases in Denpasar show that improving the house is a common option. Thus, moving out is less preferable for the inhabitants in order to obtain quality housing, particularly for traditional compounds. This evidence supports Tipple's (2000:26) suggestion that improving the house is a more popular option than moving to another place for the occupants in the Global South.

5.1.3 Constraints Upon the Occupants' Choice

People often have to make a choice between what they need and what is available to them. Rapoport (1982:258) states there are several main constraints that dwellers might face in the process of shaping their dwellings and environment. Among them are resources and market constraints, the ability to cope, the willingness and ability to move, knowledge and information, and external constraints. In some cases, he argues, the constraints can be quite severe, such as the availability of resources. In contrast, others constraint are quite weak, such as official building codes and planning regulations.

Data from field surveys illustrate that most urban dwellings have been changed and improved at significant cost. The occupants also emphasised that financial resources are the most significant constraint to realising both of these activities.

> *The first time I did a viewing, the spatial organisation seemed inappropriate […]. The previous owner placed the toilet next to the front veranda with direct access from the living room, so visitors could see activities around the toilet. […] and I wanted to remodel the house. However, I could see money was the main constraint to demolishing and rebuilding my house […]. I had to pay off the mortgage prior to applying for a home loan from the bank. […] A national bank finally approved and provided a new loan afterwards […].*
>
> I Wayan Sumerta, 49 years old, 21 August 2011

> *Acquiring the adjacent area […] and remodelling the house incurred additional costs […]. I had a limited budget. On the other hand, I was looking forward to having a bigger house that had more space for accommodating domestic activities and generating family income […]. A soft loan from the bank was a solution and enabled me to realise my ideas […].*
>
> Komang Budi Artawan, 61 years old, 29 July 2011

The above statements suggest that providing adequate housing can be seen as a housing need, and financial subsidies have to be provided to simplify this need. This condition relates to Bourne's opinion (1981:30) that costs related to housing in terms of building or of housing satisfaction are some of the most expensive investments made in the lifetime of the occupants.

5.2 Transforming the House: Changes and Improvements

> *The process of change results from the interrelationship between the dweller and the dwelling and is stimulated in certain circumstances according to the characteristics of either or both the dweller and the dwelling. Change results from conscious (and unconscious) attempts by dwellers to make the dwelling respond more closely to a range of requirements* (Kellett et al., 1993:5).

One reason for improving housing quality is the desire to live in a better or more satisfactory home (Grindely, 1972:10–11). The occupants are likely to invest great efforts in gradually improving their housing conditions. Without a doubt, some of them even spend extra funds on good quality building materials during improvements.

5.2.1 Why are Changes Made?

The findings show that all of the case studies carried out changes to their houses. The main reason for extending the existing dwelling was to provide more space, owing to a limited house plot, family growth, or anticipation of future expectations. These findings concur with the evidence found by Tipple (2000) in his research into several countries in the Global South. All of these cases revealed that the transformers in each developing country have different reasons for changing their dwellings. For instance, in Ghana, Bangladesh, Egypt and Zimbabwe, Tipple (2000) found that there was a need for increased space to accommodate growing children and more people joining the household. These are the most important reasons. Abdalla (2007) identifies three major needs – habitable space, privacy, and security – which motivated dwellers in Benghazi, Libya, to change their dwellings. Moreover, Nguluma (2003:105) identifies three factors that encourage the decision to carry out housing transformation: income-generating activities, socio-cultural reasons, and aspirations for modernisation. Using the following six categories of Kellett et al. (1993), the fieldwork for this study identified the predominant motivations for transformation in urban Balinese dwellings post-2001:

1. Incompleteness, Deficiency, and Inadequacy of Dwelling

If the dwelling is considered incomplete, deficient, or inadequate, the occupants may take action to bring it up to standard. Inadequacy and incompleteness may relate to size, particularly for low-cost housing. For instance, the floor area of a basic dwelling is approximately 36m^2. This may be sufficient for a couple, but will be too small for a family with several children. The average family size in Denpasar is 3.9.

> *[…] a new couple and a larger family surely require different house sizes. When my wife and I started married life, the house with 36m^2 was more than enough […]. However, having children encouraged me to think about how to extend the house. It was not sufficient […].*
>
> I Gusti Ngurah Meryana, 38 years old, 15 August 2011

Deficiency may relate to the quality of the dwelling. Financial constraints have led developers to construct dwellings at minimum cost, so the houses are low in quality.

> *The quality of building materials was very poor. The developer used concrete panels for interior walls and concrete bricks were used to enclose the house. However, for covering the top, they used poor quality roof tiles and timbers […]; the first time I had a viewing, this house looked like a fragile building […] Many years later, I was able to demolish it and rebuild a new house of good quality, as I had wanted […].*
>
> I Made Sandy Aryawan, 53 years old, 29 August 2011

Meanwhile, the economic capacity of the occupants of traditional dwellings also results from the quality of the house.

> *The house was so old, a hundred years. My father was unable to afford renovation […] I shared the costs for the refurbishment of the house with my sisters and brothers. We did it in several steps, and finally, it was completely finished two years ago […].*
>
> I Nyoman Susila, 61 years old, 26 August 2011

Therefore, low quality means poor durability and greater maintenance, which may mean that the occupants take action to bring the dwellings up to standard, or at least to maintain the dwellings to prevent deterioration.

2. Inappropriate for the Context

This mostly occurs in low-cost housing in Bali. All low-cost housing was originally designed with no space for a shrine, as the developers designed and built these houses following the national standards. However, it is essential to be sensitive to local cultural values. The Balinese would not simply ignore the spirit of the house. Therefore, in the process of occupation, the dwellers changed the dwelling to provide the necessary sacred spaces, as they explain below:

> *Since the previous owner was not Hindu, I bought this house without a shrine. […] A sacred space or a shrine is very important for the Balinese Hindu and it should be provided in the yard. I put in a shrine of* penunggun karang*. It is a palace for the Security God that is believed can give protection to my family from negative spirits […].*
>
> I Nengah Tangkas Swacita, 46 years old, 21 August 2011

> *There was no sacred space in the original design of the house. So, I provided a family shrine and put this sacred area on the first floor. It consists of two shrines:* padmasana *and* penunggun karang*, and these have completed the spiritual dimension of the house […].*
>
> I Ketut Sunadi, 38 years old, 26 August 2011

3. The Requirements of the Occupants Change

Family growth creates a change in family composition and size. Inevitably, the occupants do not remain static, and this is aggravated by the housing shortage. This means a need for more space in accordance with the increase in domestic activities. Some family members also require enclosed spaces with greater privacy.

> *[…] we need more space for family growth, mainly bedrooms for my children […]. Having a meal together, relaxing with family, parking motorbikes and a car, are some of the domestic activities that have emerged as a result of family growth […]. Housing extension is the answer […].*
>
> I Gusti Ngurah Meryana, 38 years old, 15 August 2011

4. The Aspirations and Expectations of the Occupants Change

There is evidence that, in general, expectations tend to rise where the occupants aspire to an improved future compared to the past. It could be that those things which were previously satisfactory may now be perceived as unrepresentative of higher aspirations, and therefore action may be taken to improve the dwelling. This phenomenon will be described in section 5.4.2.

5. Change in Response to Efforts to Personalise the Dwelling

Max-Neef (in Kellett et al., 1993:6) suggests that an integral part of being human – the wish to express, the desire for belonging, and creativity – arises after the basic needs have been met. It

is a common aspiration of occupants to personalise and distinguish their houses. A wide variety of changes can be observed, including decoration, changing colours and materials, additional gardens, and so on. The case studies show that not all changes are necessary, but these changes are one part of the process of making houses into homes. This notion is supported by Kellett and Higdon (1991). The house as a means of personal expression of the occupants will be further discussed in Section 6.2.3.

6. Changing the House in Order to Generate Income

One of the features of housing transformation in Denpasar is the increased need for rooms in order to generate family income. In some cases, it was even found that the occupants transformed habitable spaces to accommodate economic functions. Urbanisation, where people move from rural areas to urban centres, creates a spatial demand for economic activities.

Jalan Raya Sesetan in *Banjar Tengah* is a main road that serves commercial areas, so it has a higher economic value than other roads. As a result, the occupants who live in traditional compounds along this road benefit from the capital value of the house by using it for economic activities.

Figure 5.1. Main road (*Jalan Raya Sesetan*)

This road provides an extended capital value of the traditional houses (clockwise from the left)

(1) Ketut Gede Pariasa extended the house and rents it as a local bank.
(2) I Gusti Ngurah Oka Putra rents part of the house as a clothing store.
(3) I Wayan Sandiasa built new pavilions that are rented as temporary accommodation for urban migrants.
(4) I Made Nichi's wife opened a *warung* that faces the alley.
(5) The youngest daughter of Made Riady teaches a course in traditional Balinese dancing at the rear of the property.

Economic activities are also found in low-cost housing, where habitable spaces have been changed to maximise the economic value. From the cases studied, it can be seen that most habitable spaces that are changed are rooms which are used for low intensity domestic activities, such as the living room or front veranda. Some occupants also choose to utilise the carport, which can be used for one or more activities or functions.

> *I have no car [...], but two motorbikes were able to help me to support daily life [...]. I thought that the carport was too big for these bikes. At the same time, my wife needed space for her home garment business [...]. Finally, we used the carport to house the bikes and this economic activity [...].*
>
> I Wayan Sueta Antara, 39 years old, 10 September 2011

> *[...] My youngest daughter is interested in finance and accounting. After finishing a Master's programme two years ago, she wanted to have her own office [...]. However, renting an office in a strategic place in Denpasar is almost impossible for us [...] I do not mind using a living room for my daughter's office until she can afford to have her own office [...].*
>
> I Made Gede Sudiartha, 57 years old, 9 September 2011

Figure 5.2. Changes in habitable spaces in low-cost housing (clockwise from the top left).

(1) The carport in I Wayan Sueta Antara's house accommodates the additional use as a home garment business.
(2) *Warung* (a small shop) was added in the front veranda of I Ketut Artayasa's house.
(3) I Made Gede Sudiarta changed a visitor reception room to be a consultation office for his daughter.
(4) I Ketut Tomi has an internet cafe in a living room.

It can be clearly seen that the above motivations are a complex phenomenon of housing transformation associated with many relevant variables and descriptions. Transformation is the process that is created by the interplay of the occupant and their dwelling. Therefore, changes and improvements to the dwelling represent the active efforts of the dwellers to fulfil of variety of housing needs over time, as Kellett et al. (1993:5) stated at the beginning of this section.

5.2.2 How to Do it?

This section describes how the occupants, in some circumstances, change their houses in different ways. According to the concept of transformation presented in Table 2.1, in most cases of changing the house, the occupants have undertaken methods of transformation that can be specified into five groups:

- Horizontal extension, with rooms or buildings added to the existing house;
- Vertical extension, through additional extra layers to the existing house to accommodate more functions;
- Physical alteration, such as rearranging the existing house plan or making internal changes without increasing the overall original floor area;
- Remodelling or demolishing the existing house and rebuilding a new house within the same area;
- Changing the use of space by allocating a new function to an existing room, but with no effort to completely change the room and house.

1. Horizontal Extension

This takes place in a situation whereby the occupants initially occupy a single storey building and add one or more rooms by extending horizontally. I Wayan Sugiatma is a horizontal transformer, and had extended his house from one to three bedrooms: see Figures 5.3. and 5.4.

> *I found that my family growth increased my housing needs. It meant we needed more space […]. My wife is adept at sewing formal dresses and cooking hot noodles. Thus, I thought it a good idea to develop a few rooms for bedrooms,* warung*, and a sewing room […].*
> *I changed the existing house horizontally, but it needed extra money […]. It started by taking a soft loan from a local bank […] for construction and finishing the additional floors. […]. I finally obtained a bigger house that almost covers the whole area […]. Two years ago, both my son and daughter moved to different places […]. I rented my children's bedrooms to others as temporary accommodation […]. I retired from my job this year. […] all of these income-generating activities are able to help me to pay off the instalments of my home loan […].*
>
> I Wayan Sugiatma, 67 years old, 29 July 2011

Meanwhile, other families may add some additional compounds because of increased family size, as illustrated in the traditional compound of Ketut Sudana (see Figures 5.5 and 5.6). Here, cultural reasons motivated the dweller and the extended family to settle together in the same area and increased family-size had an impact upon housing needs. The dwellers therefore required habitable spaces in order to fulfil these needs.

The Balinese patriarchal system enables my brothers and I to settle together in this area. Father bequeathed this to his sons and plotted it in five parts [...]. As the next generation, we should maintain this house as a family legacy which, in the future, we are going to pass on to our sons [...]. That is the way it is [...].
Here we have many compounds that are occupied by five households [...]. Over ten years, after getting married, my brothers added some compounds. The extended family became bigger and bigger. [...] Today, such conditions are crowded, but we are happy with that [...].

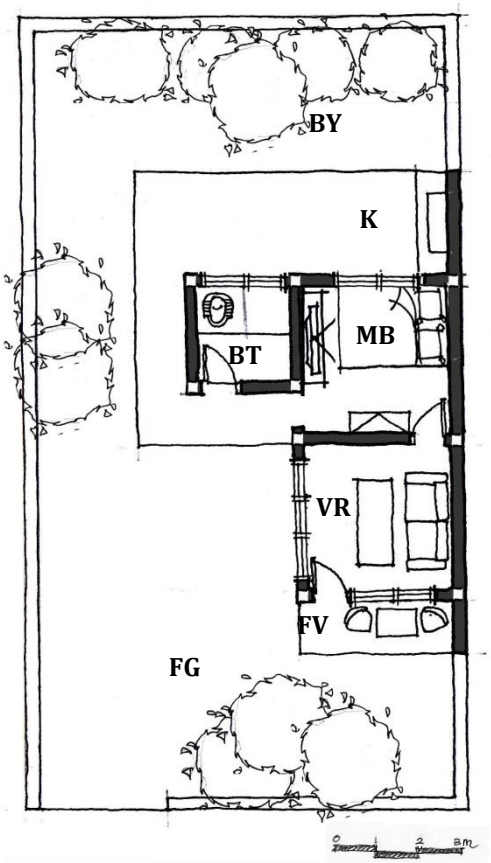
Ketut Sudana, 57 years old, 7 August 2011

Figure 5.3. I Wayan Sugiatma's house.

The occupants extended the house horizontally for income generating activities (clockwise from the top left).

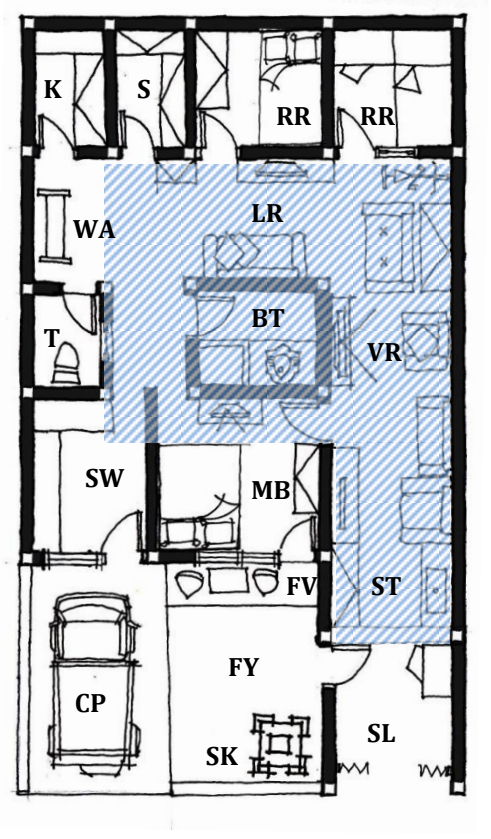
(1) *Warung* provides various types of women's hair accessories, hot noodles, and juice.
(2) Rented rooms.
(3) A sewing room for formal dresses.
(4) *Warung*.

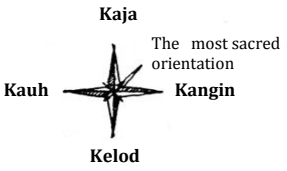
The findings show that horizontal extensions can take place without any guidance from local building regulations. Thus, this type of extension has led to houses having high coverage of the plot, with a resultant impact on the proportion of space which is habitable and on housing size. This transformation also maximises land use to gain the most benefit without compromising spatial qualities.



BT Bathroom and toilet
BY Back yard
CP Car port
FG Front garden
FV Front veranda
FY Front yard
K Kitchen
LR Leisure room
MB Master bedroom
RR Rented room (temporary accommodation)
S Storage
SK Shrine *(Penunggun karang)*
SL Small shop *(warung)*
ST Sitting area
SW Sewing room
T Toilet
VR Visitor reception room
WA Washing area

Existing House (2001)

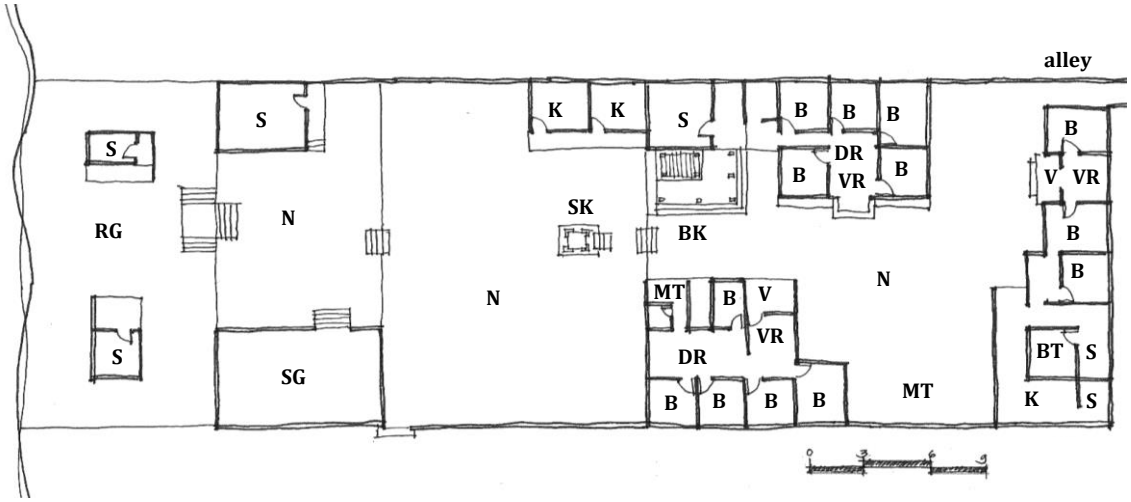




Plot of existing house

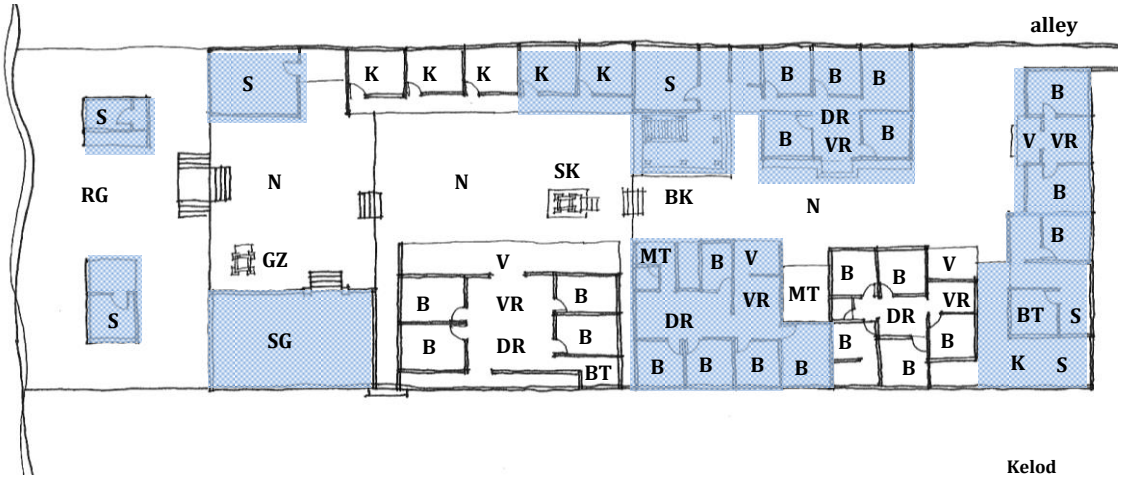
Transformed House (2011)

Figure 5.4. I Wayan Sugiatma extended the floor area for economic activities



Existing House (2001)

Plot of existing compounds



Transformed House (2011)

B Bedroom
BK Pavilion *(Bale daja)*
BT Bathroom and toilet
DR Dining room
GZ Gazebo *(bale bengong)*
K Kitchen
MT Motorcycle parking area
N Inner house yard *(Natah)*
RG Rear garden *(teba)*
S Storage
SG Family shrine *(Sanggah Gede)*
SK Shrine *(Penunggun karang)*
V Veranda
VR Visitor reception room

Figure 5.5. The house layout of Ketut Sudana's traditional dwelling.

The five extended families in Ketut Sudana's traditional dwelling share and settle together in the same area. The occupants increased from three households to five over the course of ten years.

Figure 5.6. Ketut Sudana's traditional dwelling.

Horizontal extension with additional compounds owing to cultural reasons in Ketut Sudana's dwelling creates high coverage of the plot (clockwise from the top left).

(1) Many extended compounds are around *natah umah* (an inner courtyard).
(2) A series of family kitchens.
(3) An inner courtyard of *natah* as a centre of house activities.

2. Vertical Extension

Vertical extension is an appropriate solution in low-cost housing, where the occupants are faced with limited space for horizontal extensions. Ketut Tomi describes his experience in the following interview excerpt:

> *[...] my home business increases from time to time [...] and needs more space. [...] There was no more space for horizontal development, so we extended the house vertically into two layers in 2008 [...].*
>
> I Ketut Tomi, 34 years old, 19 August 2011

Figure 5.7. I Ketut Tomi's house
The occupant extended the house vertically to obtain more space to generate family income.

There are also other motives for these changes. Limited outdoor space encouraged the occupants to extend the house vertically, so they would have better access to cross-ventilation. This type of development may also inhibit cross-ventilation to the neighbours, depending upon the wind direction. With regard to understanding how vertical extensions take place, one of the occupants in low-cost housing explains:

> *What forced me to extend vertically was the lack of outdoor space in my plot. However, I got into trouble with some of my neighbours. They blocked their own house with a tall fence [...]. There was not enough space surrounding the house [...], no fresh air inside [...] and we found that there was no airflow in the house [...]. It was not comfortable to live in this condition.*
> *[...] building the house vertically is the best option [...]. Thus, I decided to extend the house into two layers and started the construction five months ago [...].*
>
> I Wayan Sumerta, 49 years old, 21 August 2011

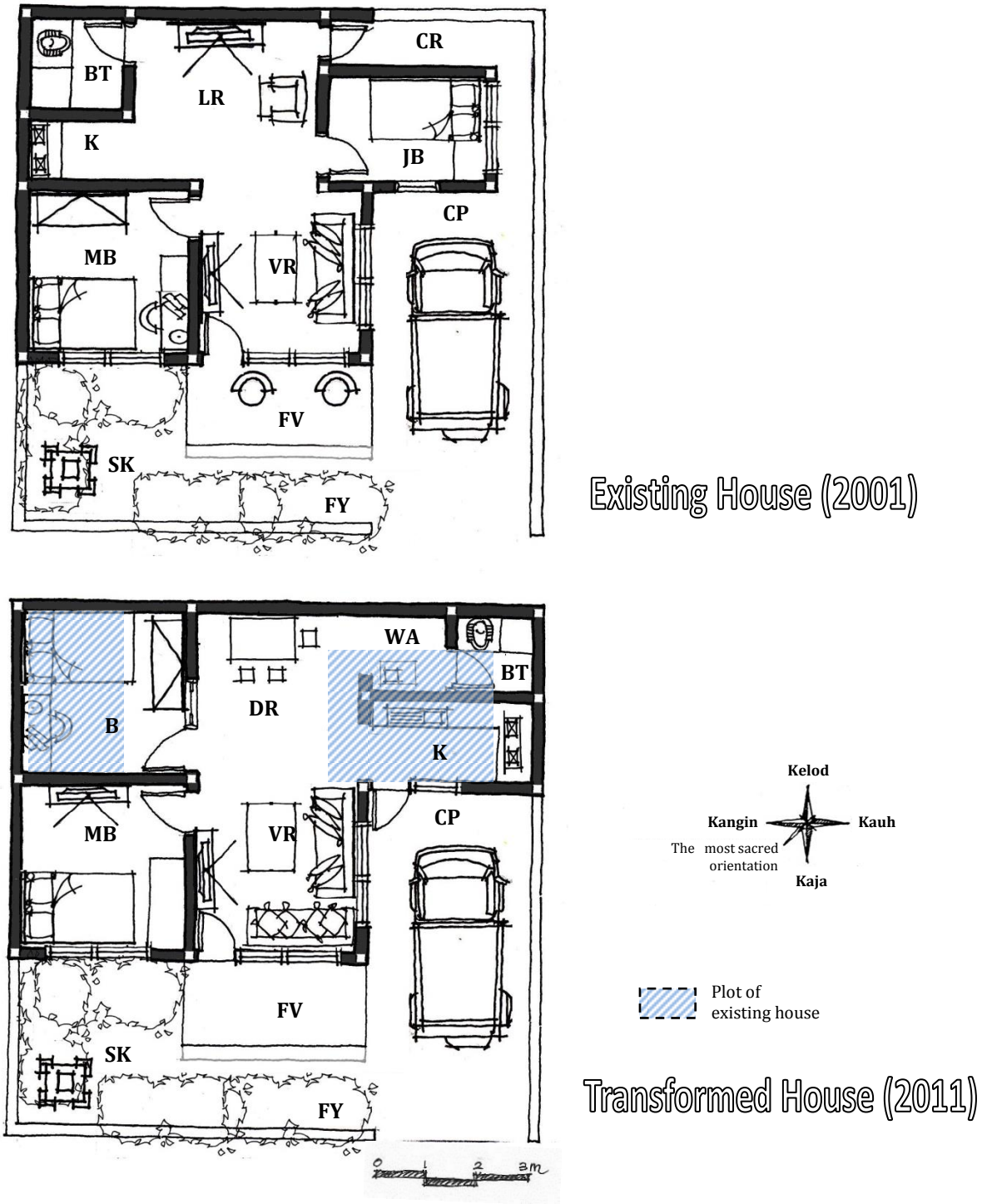
Local governments provide regulations for site planning. These require developers to provide an adequate amount of daylight and ventilation to all rooms and spaces; privacy for each living unit; secure, easy and convenient access to the dwelling and circulation around it; and sufficient land for expansion. The regulations recommend that the distance between two buildings front to front, across the street, walk way or common area should not be less 2.5 metres (City Council of Denpasar, 1995). From the cases studied in low-cost housing, it is clear that housing development in this area is carried out informally. Most transformers ignore this requirement when considering redevelopment. The distances between living units are often less than 1 metre, and in extreme cases there is full coverage of the plot. In other words, cross-ventilation within the units and those adjacent becomes greatly constrained.

3. Physical Alteration

This transformation is done by rearranging the house layout, including making efforts to change the house perimeter. Some cases show that changes are made inside the house. The occupants alter the house plan gradually, over a long period. The use of indoor space involves the occupiers shifting from one room to another. There are also situations where the interior walls are demolished in order to increase room size. One of the interviewees, Gede Ardana, tells of his experience of this type of transformation: see Figures 5.8, 5.9 and 5.10.

> *When my only daughter was a teenager, she definitely needed a private bedroom […]. The existing house just provided a small bedroom […], and I thought there was no more space for her. Besides that, my wife always complained about the small kitchen and toilet […]. Both rooms are located next to the living room. Consequently, if we had visitors, there was no privacy for us […]. I changed the layout in 2006 […]. During construction, my daughter moved to the master bedroom. Cooking was in the living room, and when taking a bath, we did it next door […].*
> *We rearranged the position of the kitchen and toilet to be a bedroom, so my daughter gained her own bedroom. It became possible to accommodate some extra functions and change the use of the rooms. For instance, the wall that formed a corridor was demolished. One room was divided into three functions: kitchen, toilet, and washing area. […] We also changed the function of the leisure room to be a dining room. Eating now takes place in that room, while the living room is located where we used to entertain guests […].*
> *[…] These exchanges have satisfied both of them, my wife and daughter […].*
>
> Gede Ardana, 39 years old, 26 August 2011

Alteration changes room sizes. For example, in the above interview, the room size was increased by demolishing the wall that formed a corridor. The interior transformation also involved the extension of walls to achieve higher ceiling levels, an additional window in the kitchen to enable cross-ventilation in the house, and the erection of an interior wall to separate the kitchen and toilet. Thus, alterations to the housing layout involved more than just room extension, but also changes to other housing elements, such as windows, doors, wall or partitions, the height of ceilings, and even the roof structure. These changes are continually made for the occupants' convenience. Efforts to adjust the position of windows and doors bring significant improvements in cross-ventilation.



B Bedroom
BT Bathroom and toilet
CP Car port
CR Side corridor
DR Dining room
FV Front veranda
FY Front yard
K Kitchen
MB Master bedroom
LR Leisure room
SK Shrine *(Penunggun karang)*
VR Visitor reception room
WA Washing area

Figure 5.8. Gede Ardana's house
Alteration changes room sizes and swaps the room positions.

Figure 5.9. Alteration in Gede Ardana's house (clockwise from the top left)

(1) This has enabled this family to have a dining room.
(2) Bathroom/toilet and washing area.
(3) A wider kitchen.

Figure 5.10. Alteration in Gede Ardana's house

(left) This involved changes of window and door position for cross-ventilation and access to the kitchen from the carport.
(right) An interior wall was shifted to provide a bigger kitchen.

4. Remodelling/Demolition

Another transformation method of the cases studied involves remodelling or demolition of the existing house structure and building a new one. However, this was only found in low-cost

housing. The two housing plans below show that the occupants demolished the existing structure and added a new building with more vertical levels in order to acquire additional floors. This is because they faced spatial and configuration problems owing to the limited space and plot size. I Wayan Sumerta demolished the existing house and rebuilt the new one into two storeys: see Figures 5.11 and 5.12. He explained the process of replacement of former constructions with concrete structures:

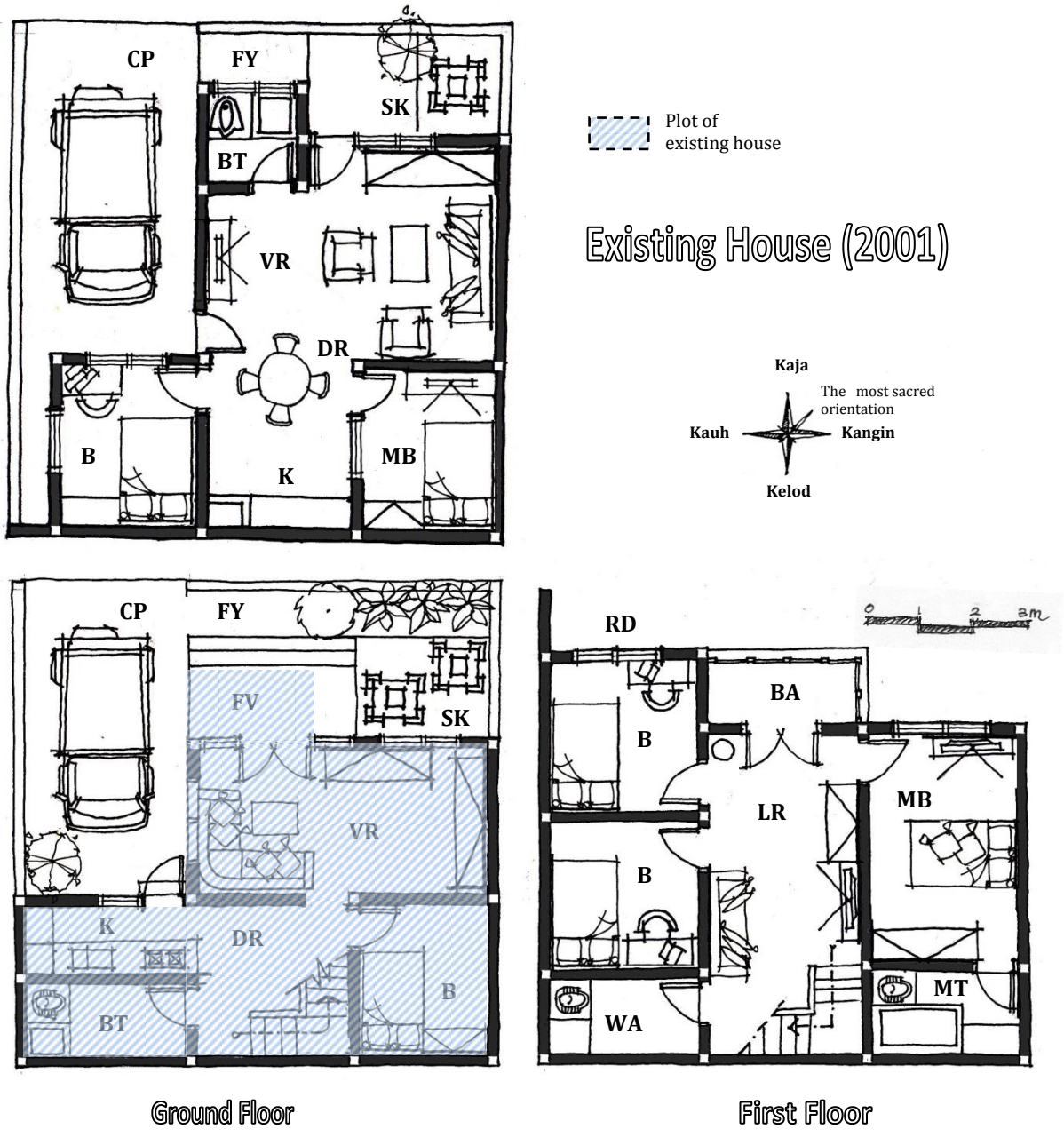
> *[…] My family and I rented the house next-door during construction; thus, I was able to supervise directly the demolition process […]. The existing house was small, of type 36 […]. It began with partially disassembling a part of the existing house. The first stage was the roof construction. Concrete columns, a wall, and floor followed it; […] a house with two floors and more rooms was built on the old sub-structure […] and replaced the existing house […]. The workers set upright the new constructions, partitioned the rooms, covered them with the roof […], and then it was the finishing step.*
>
> I Wayan Sumerta, 49 years old, 21 August 2011

Komang Budi Artawan reveals that he replaced the existing house after purchasing the adjacent area. Accordingly, he acquired a bigger area and built a new house with two storeys (see Figures 5.13 and 5.14):

> *The idea to demolish the existing house came up when next door offered to sell me his plot […]. At that time, my son was a teenager and needed a separate bedroom, and we also needed a house worker. I was thinking of generating family income […].*
> *[…] I planned all family activities on the ground floor and provided three rented bedrooms on the first floor […].*
>
> Komang Budi Artawan, 61 years old, 29 August 2011

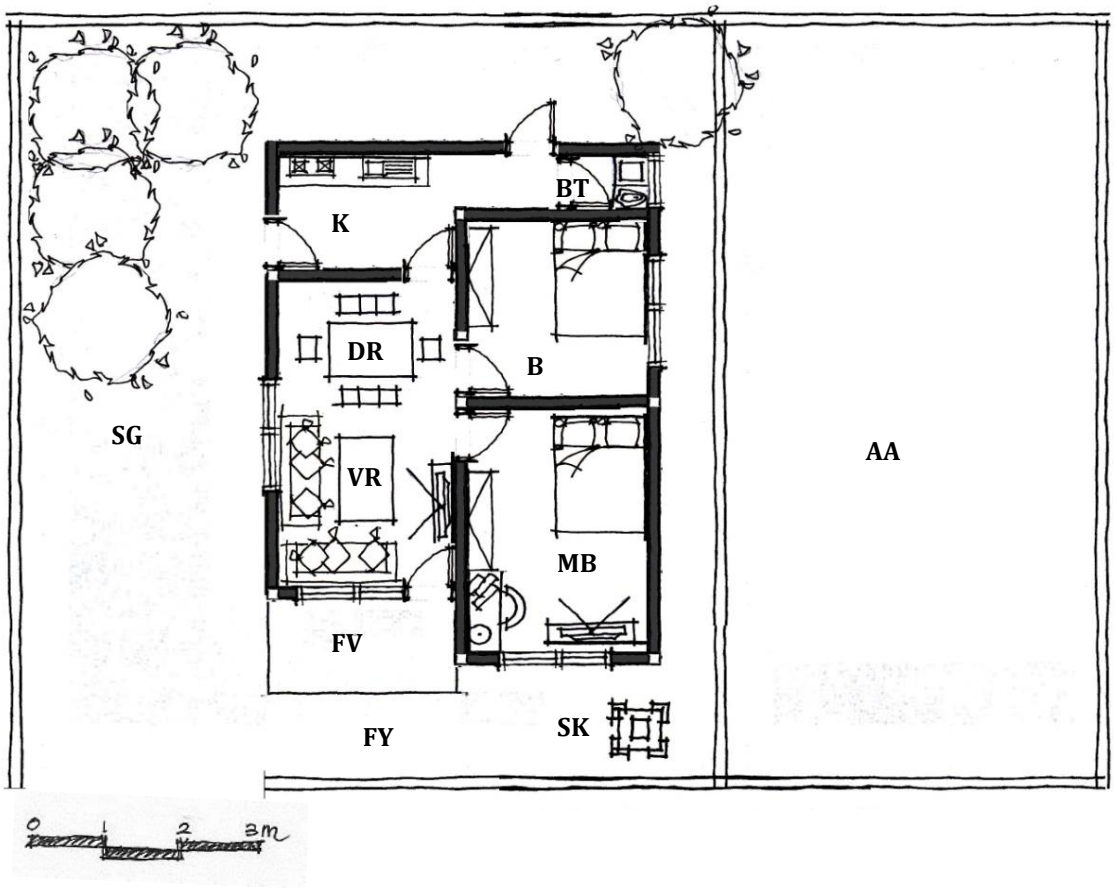
Figure 5.11. Demolition in I Wayan Sumerta's house (clockwise from the left)

(1) The existing house was replaced by a two-level building. It was under construction when the investigation was carried out.
(2) The new appearance of the house perimeter.
(3) The interior of the living room.

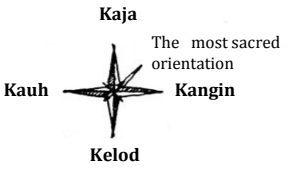


B Bedroom
BA Balcony
BT Bathroom and toilet
CP Car port
DR Dining room
K Kitchen
FV Front veranda
FY Front yard
LR Leisure room
MB Master bedroom
MT Master bathroom
RD Roof deck
SA Shrine area *(Sanggah Alit)*
SK Shrine *(Penunggun karang)*
VR Visitor reception room
WA Washing area

Figure 5.12. Demolition in I Wayan Sumerta's house (before and after construction activities)
The plan of the extended low-cost housing shows demolition and extension, with two additional levels.

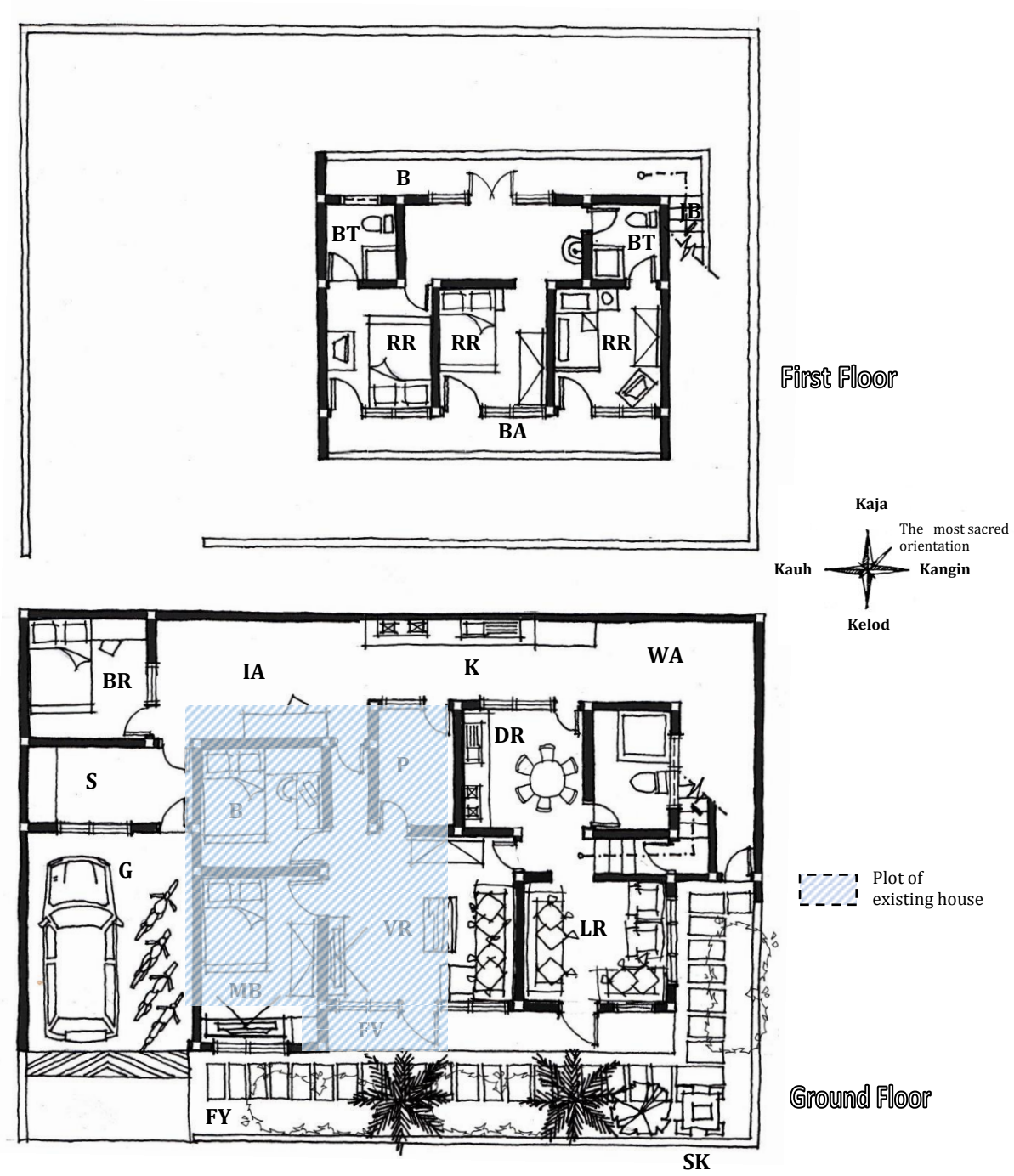


AA Adjacent Area
B Bedroom
BT Bathroom and toilet
DR Dining room
FV Front veranda
FY Front yard
K Kitchen
MB Master bedroom
SK Shrine *(Penunggun karang)*
SG Side garden
VR Visitor reception room



Existing House (2001)

Figure 5.13. The existing house of Komang Budi Artawan.



Transformed House (2011)

B Bedroom
BA Balcony
BR Bedroom (house worker)
BT Bathroom and toilet
DR Dining room
FV Front veranda
FY Front yard
G Garage
IA Ironing area
K Kitchen
LR Leisure room
MB Master bedroom
P Pantry
S Storage
SK Shrine *(Penunggung karang)*
RR Rented room
VR Visitor reception room
WA Washing area

Figure 5.14. Komang Budi Artawan replaced the existing house after extending into the adjacent area

Demolition is also found in traditional compounds. More interestingly, one occupant demolished a compound without rebuilding it. Figure 5.15 illustrates Ketut Gede Pariasa's house plan in two conditions: before and after transformation.

> *[…] the yard was so crowded with buildings and needed more vegetation […]. I created a garden at the rear by demolishing the existing pavilion […]. There was temporary accommodation for students. I removed that pavilion, but it was not followed by rebuilding a new one. […] then, I planted some vegetation and changed this area to an open area.*
>
> Ketut Gede Pariasa, 55 years old, 4 September 2011

I Nyoman Susila has a different reason:

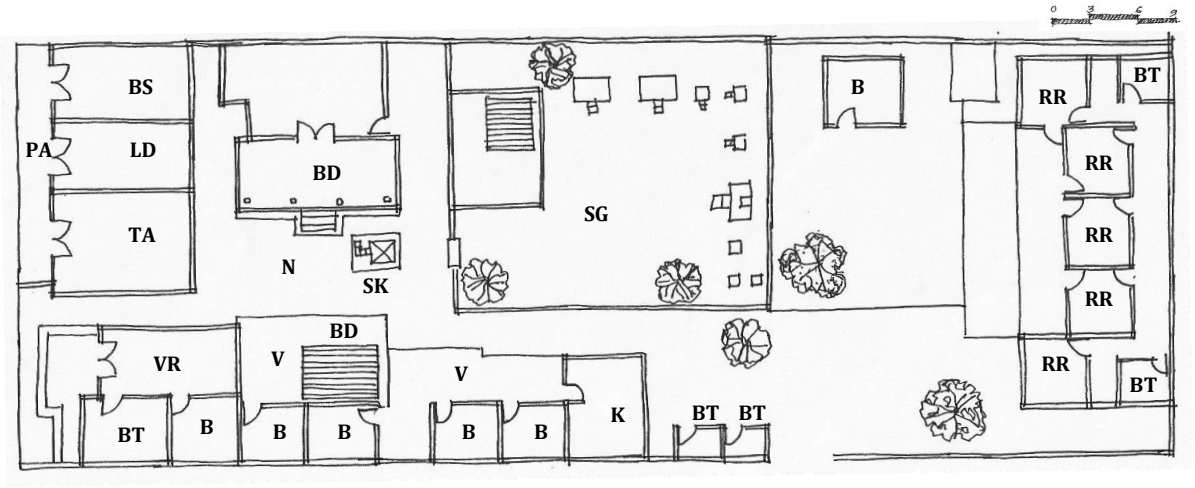
> *After my grandmother died,* bale gong *and* bale lantang *became unused spaces. In the past, she was a teacher of Balinese dancing and had many foster children [...]. That was why grandfather built two pavilions,* bale lantang *for the dancing arena and another for traditional musical instruments […].*
> *[…] We decided to demolish those buildings and rebuilt a big pavilion for us. We need more space for when all of the families come and attend occasional ceremonies […].*
>
> I Nyoman Susila, 61 years old, 26 August 2011

5. Changing the Use of Space

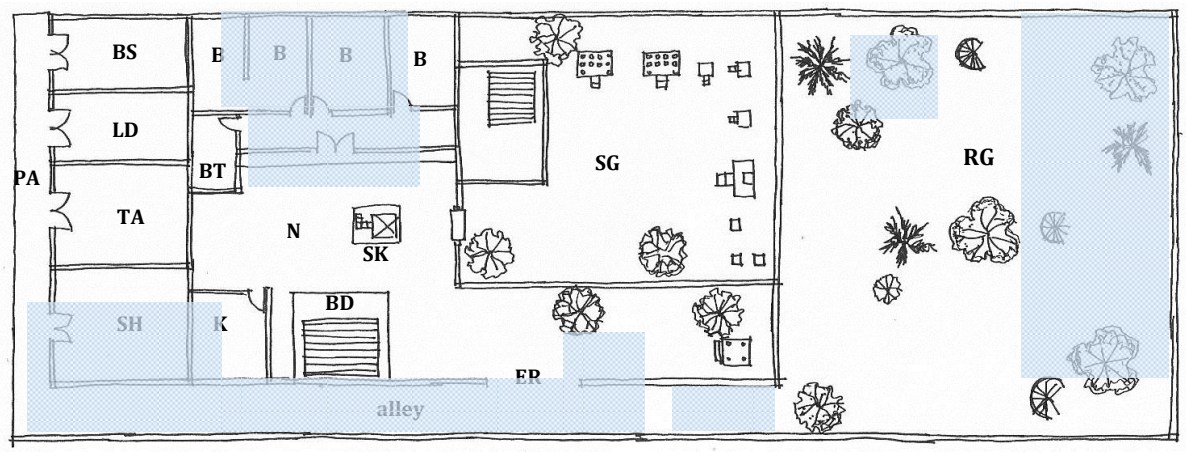
This method is usually used if the occupants have fewer possibilities for physically changing the existing house, where they require increased space to realise other activities. The occupants also choose this method in order to reduce costs, so it is mostly found in traditional compounds. Changing the room function is the best option. The following interviews with I Gusti Ngurah Oka Putra and Ketut Pantyasa from traditional compounds explain why and how they changed the use of space (see Figures 5.16 and5.17):

> *A few years ago, the tenant who rents the front part of my house asked me for more space. The number of customers of his small shop had increased over time, so he wanted to sell more commodities […]. The storage space in the shop was insufficient and he needed more. […] I was not allowed to build one compound in the yard because of limited space […]. I finally rented out a big bedroom behind the shop to be storage. My family did not use this bedroom which enabled me to change the use of space.*
> *[…] One day, two people were looking for small businesses […]. I offered a kitchen and two bedrooms. Those spaces are located in front of the yard, so customers would be able to reach these more easily. The tenants accepted my idea […]. Therefore, I changed the kitchen into a car rental office, and two separate bedrooms became a laundry service […].*
>
> I Gusti Ngurah Oka Putra, 59 years old, 28 July 2011

> *Commercial areas increase the economic values of my dwelling […]. Many people come and ask me for tenancy of the spaces. They are running small businesses. However, I preferred to rent out unused bedrooms for short-stay accommodation, particularly for students or workers […] I have adjusted three bedrooms for different purposes to be profit-making. Besides that, my daughter also changed a big bedroom to become a gymnastic hall that could be rented by customers. […] and two bedrooms behind that space have changed to be storage for gymnastic equipment.*
>
> Ketut Pantyasa, 61 years old, 2 September 2011



Existing House (2001)



Plot of existing compounds

Kaja
The most sacred orientation
Kauh
Kangin
Kelod

Transformed House (2011)

B Bedroom
BD Pavilion *(bale delod)*
BK Pavilion *(baled daja)*
BS Rented space (barber shop)
BT Bathroom/toilet
ER Entrance
G Garage
K Kitchen
LD Rented space (laundry)
N Inner house yard *(Natah umah)*
PA Parking area (customers)
RG Rear garden *(teba)*
RR Rented space (accommodation)
SG Family shrines *(Sanggah Gede)*
SH Rented space (small shop)
SK Shrine *(Penunggun karang)*
VR Visitor reception room
TA Rented space (tailor)
WA Washing area

Figure 5.15. Ketut Gede Pariasa's traditional dwelling
Demolishing two compounds was not followed by rebuilding a new one.

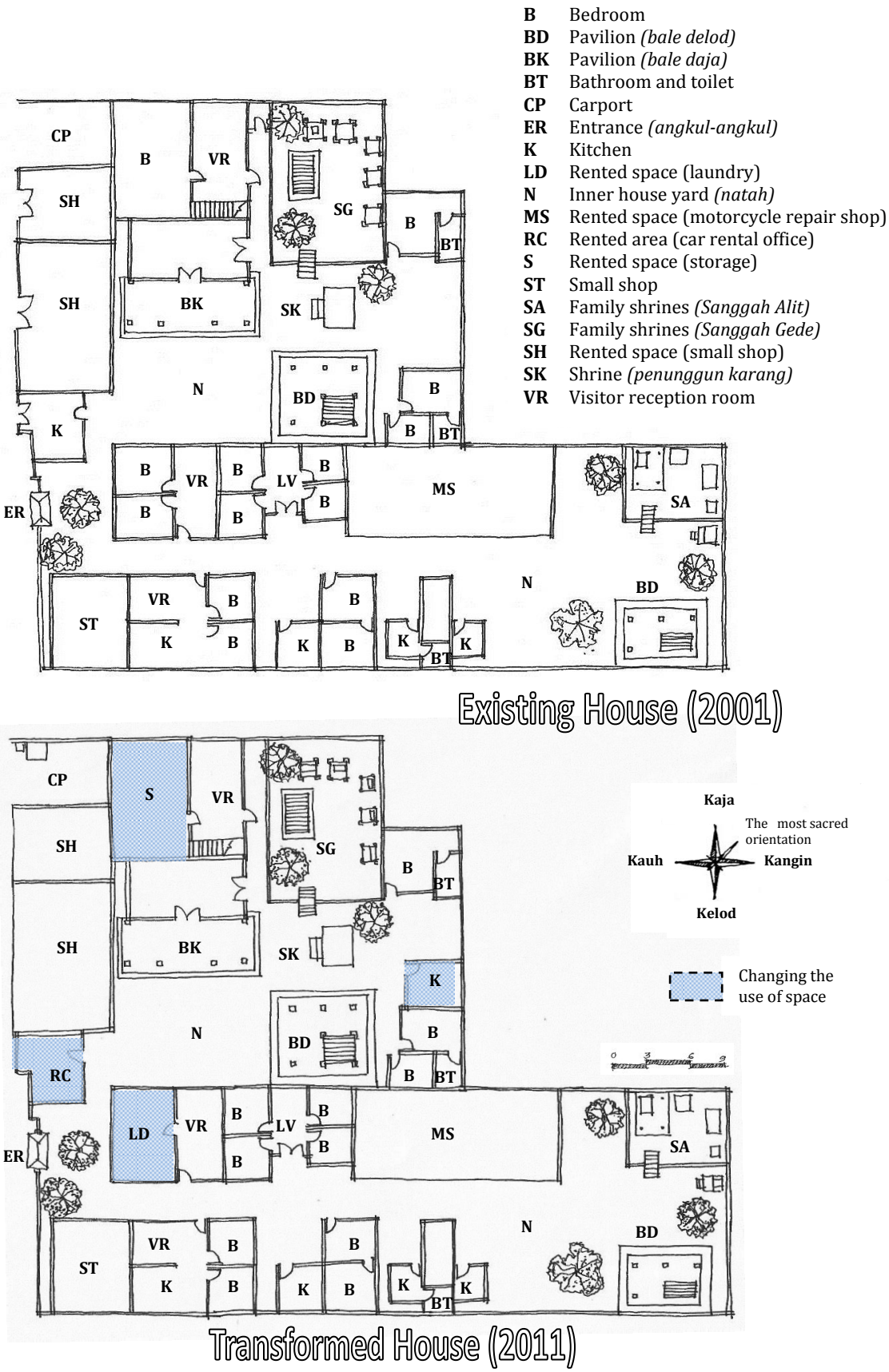


Figure 5.16. Change of use of some spaces in I Gusti Ngurah Oka Putra's house

B Bedroom
BD Pavilion *(bale delod)*
BT Bathroom/toilet
ER Entrance
GM Rented space (gymnastic hall)
K Kitchen
N Inner house yard *(Natah)*
MT Motorcycle parking area
RR Rented space (accommodation)
S Storage
SG Family shrine *(Sanggah Gede)*
SK Shrine *(Penunggun karang)*
SR Storage (for property of ritual ceremonies)
V Veranda
VR Visitor reception room
WA Washing area

Figure 5.17. Changes to the use of space by Ketut Pantyasa for economic purposes

In brief, evidence shows that house changes and improvements are a common phenomenon in urban dwellings in Denpasar, particularly for low-cost housing, owing to limited space to accommodate increasing demand. In traditional compounds, the replacement of obsolete pavilions with new buildings and changes to room function are also a common occurrence.

5.2.3 The Effects of Transformation

The occupants tend to live in their dwellings for a long period for cultural reasons and change their dwelling into a bigger or more adequate one. Indeed, they try to solve their emerging spatial requirements by adapting the current space to their changing needs. Data from fieldwork reveal that all of the occupants in the case studies have carried out changes to their houses over ten years and the effect of this activity can be generally classified as follows:

1. Increase in Housing Space

Tipple (2000:31) defines habitable space within a dwelling as domestic spaces that are used for living, dining, and bedrooms, excluding kitchens, bathrooms, toilets, balconies, verandas, storage, and commercial space or any open space. Nevertheless, the field data show that most occupants had added leisure rooms and enclosed pavilions into their habitable space, as well as a garage, a carport, and open pavilions. Interestingly, increasing spatial requirements tend to be motivated by sleeping activities, particularly in low-cost housing. The Balinese patriarchal system means that having children, mainly a son, is very important for inheritance over generations. Family growth results in changes in family size and household density. As a result, more space is needed for accommodation (Chevan, 1971). Therefore, the number of bedrooms affects spatial requirements (see section 5.2.1).

The existing dwellings in most of the cases studied had been enlarged, so the effectiveness of transformation in providing more space can be realised. Property size begins with the smallest dwellings (36m^2) as a standard (REI Bali, 2010). Nevertheless, most occupants of low-cost housing have arguably made full use of the space, in which the dwelling covers the plot.

> *[…] increasing the domestic space with an additional floor is undoubtedly a good idea […]. Changing the house is only possible through either physical alteration or changing the use of space […].*
>
> I Wayan Sumerta, 49 years old, 21 August 2011

> *If I intend to change the house in the future, I will choose spatial rearrangement, vertical extension, or modifying the room functions […]. Demolition? I have no idea about that. It needs so much money […]; also, horizontal extension is not sensible […] there's not enough remaining space […]. However, I must point out that changing the house* [with an additional storey] *will increase the floor space […].*
>
> I Wayan Sugiatma, 54 years old, 29 July 2011

Continual modification of traditional compounds is sensible and is only a part of an ongoing process of transformation. Gosling et al. (1993) suggest that the occupants commonly change their dwellings to reduce the occupancy rates (people per room) and to increase the dwelling space per person. Success in either or both of these aims indicates which transformation activity has succeeded in relieving housing stress. Interestingly, I expected that the families in the transformed houses would have built extensions to provide more habitable space for domestic life; however, most transformers had expanded the available space for renting out or for commercial activities. Therefore, in these cases, there is no increase in space occupied. This supports Tipple's (2000:34) findings that *"in a house which is multi-habited, the occupants could be expected to enjoy better living standards, but not necessarily more room than they would have had if they had not transformed."*

2. Spatial Adaptability and Flexibility in Use

Altas and Ozsoy (1997) assert that the term *adaptation* relates to changes and alterations to adapt the environment to the changing needs of the occupants over time, whereas the term *flexibility* refers to the use of space for various purposes without making physical alterations. Both researchers also suggest that the above terms can be used for the evaluation of domestic space. The level of satisfaction can gradually change, either increasing or decreasing, with changing spatial needs.

Findings from the case studies present two issues concerning adaptability and flexibility: the first concerns the potential of the dwelling unit for various needs and its resulting changes over time; the second relates to the suitability of the dwelling spaces or layouts for different activities or multi-functional rooms. Both issues are relevant to spatial organisation, dwelling and room size, and spatial change and alterations. The physical attributes of space determine the level of satisfaction of the dwellers with spatial adaptability and flexibility, so that a good quality space can be achieved. I Ketut Sukandra reveals this fact (see Figure 5.18):

> *The kitchen became the customary eating space for my family in the past. This resulted from the dining room adjoining the kitchen […]. The existing house was planned without separation of the kitchen and dining room. The leisure room also did not exist […].*
> *Since the extension, there is a bigger room for four functions: dining, leisure, and sometimes entertaining informal guests and preparing offerings […].This room has direct access to the kitchen, so my wife still considers it convenient for preparing the food before mealtimes. It means that the dining room has no odour of spicy food while my wife is cooking […]. It is also furnished with big sofas and an audio-visual system […]. This room is the most preferred space for my daughters and grandsons when they come to see me […].*
>
> I Ketut Sukandra, 71 years old, 18 July 2011

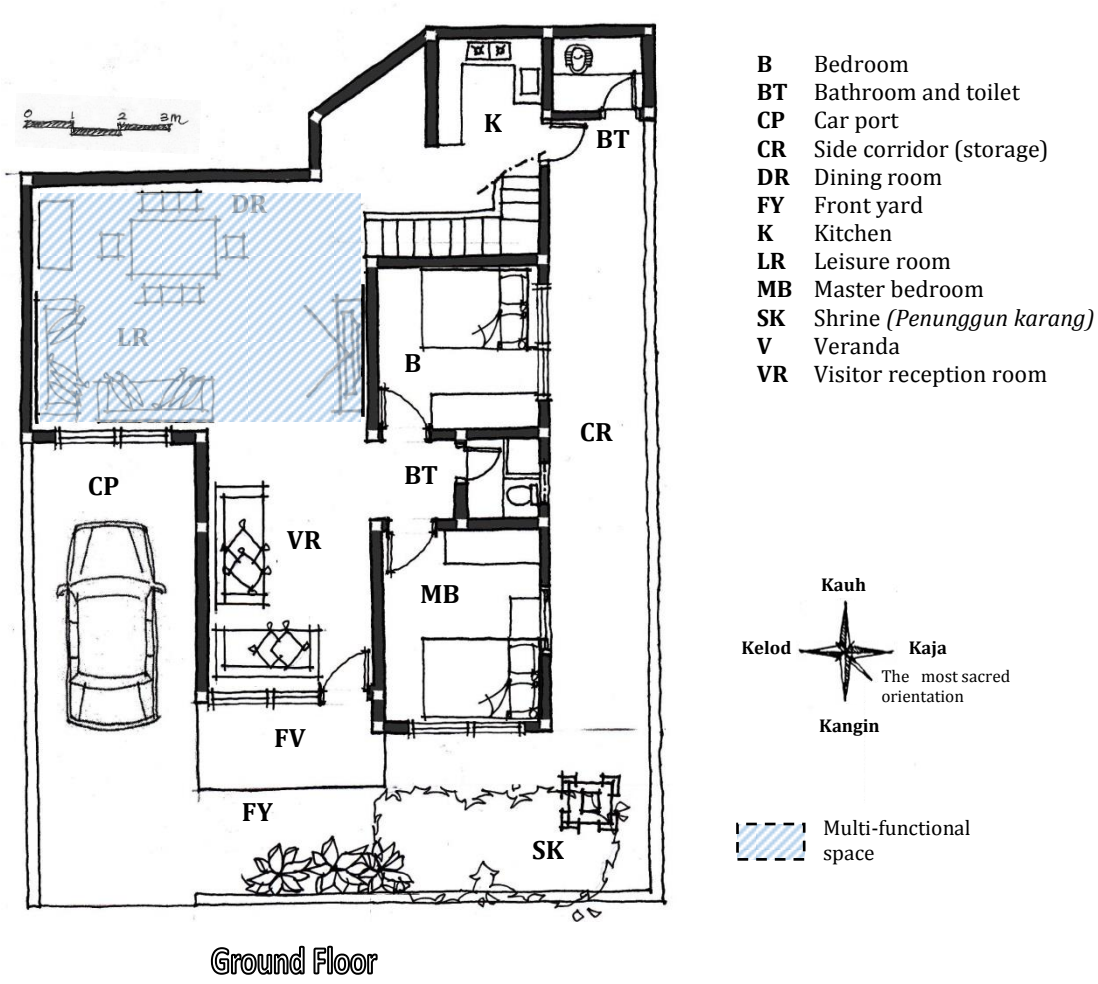
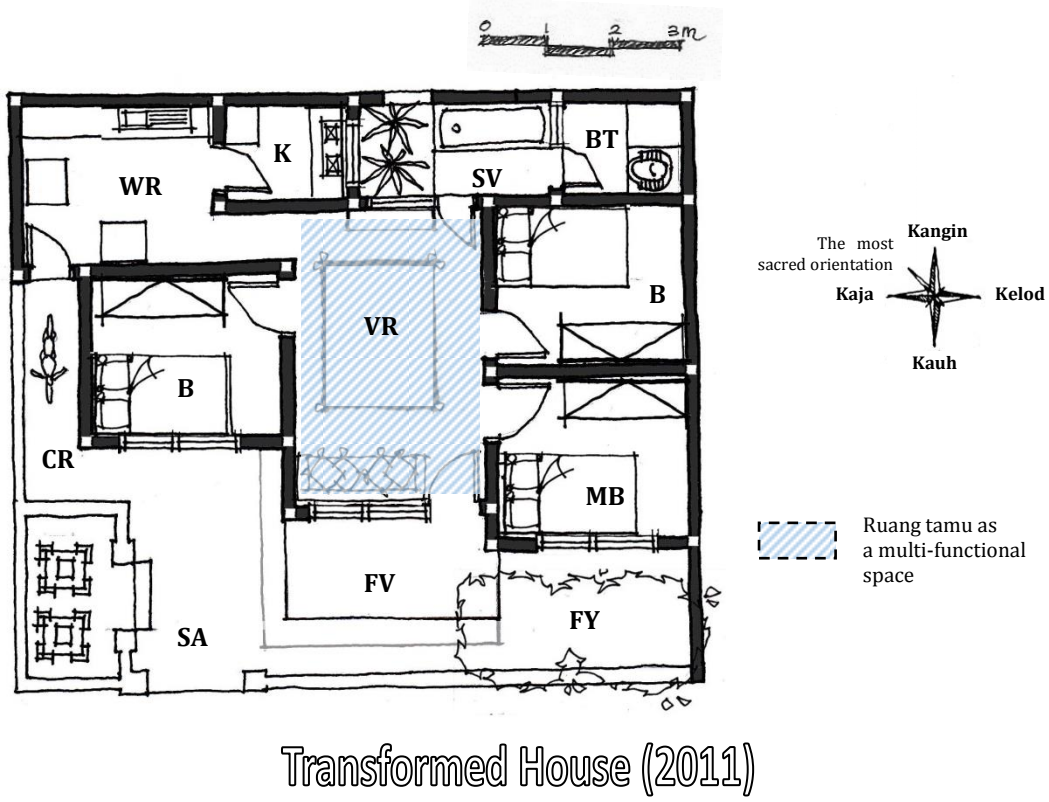


Figure 5.18. I Ketut Sukandra's house

Transformation in this house shows how spatial organisation could create spatial adaptability and flexibility in the use of dining space.

> *Limited space gave me no more choices [...] no dining room, no leisure room... It is only a space and we call it* ruang tamu, a space for entertaining visitors *[...]. This room looks like the centre of the home and is used for several activities, such as entertaining guests, having mealtimes, and family interactions [...]. In the last few years, this room has accommodated my wife's home business. She creates handmade traditional offerings that are ordered by customers for traditional festivities [...]. This business changes from day to day and is assisted by three people [...]. For this reason, she changed the dining room to a storage and working area for raw materials, like coconut, pandanus, and banana leaves, fruits, [...].*
> *[...] there is only one sofa in* ruang tamu *[...]; the assistants work on the carpet while sitting cross-legged as they need the floor to cut the leaves and string them up [...]. The room is directly connected to the working area by a narrow corridor, so it could support domestic activities from the kitchen, working area, side corridor, and the room itself [...].*
>
> I Gusti Ngurah Meryana, 38 years old, 15 August 2011



B Bedroom
BT Bathroom and toilet
CR Side corridor
FV Front veranda
FY Front yard
K Kitchen
MB Master bedroom
SA Shrine area *(Sanggah Alit)*
SV Service area
VR Visitor reception room *(ruang tamu)*
WR Working area (it was a dining room)

Figure 5.19. I Gusti Ngurah Meryana's house

The extension to the house enables ruang tamu to be the centre of the home and covers several activities: mealtimes, family and social interactions and home business.

> *Adaptability and flexibility? I think that the dining room is the most adaptable and flexible space in my house [...]. The additional floor area enables us to have a leisure room and a separate dining space [...], but the dining room is most often used for other activities [...]. Yes, it is because of the big dining table [...]. For instance, for preparing offerings, my wife needs a big table to put and arrange them [...] whilst marking the assignments of students, she also needs this table [...]; my eldest son prefers to study here rather than in his room [...] the dining table is like multi-purpose furniture for my family [...].*
>
> Made Mandika, 54 years old, 30 August 2011

Owing to the fact that the most enclosed pavilions were changed within many rooms before 2001, this is the most common method of transformation in traditional compounds in terms of changing the use of space. Some rooms have been changed to function as other rooms, such as the dining room, bedrooms, private or rentable space, motorbike parking area, and so on.

Similarly, the dining and living rooms also have greater spatial adaptability and flexibility of use in comparison to others.

> *[...] We do most family activities in the new living room in the additional compound. Sure, it excludes sleeping, bathing, toilette, or washing [...]; this room embraces all members of the family [...] and has become our favourite... perhaps, that is because of the size and position of this room in the centre of the house [...]. Rooms around the living room direct all activities through the centre [...].*
>
> I Made Nichi, 59 years old, 28 August 2011

> *There is no partition between the kitchen and the dining room, so we got a bigger room that can be used for many functions, such as preparation of offerings, leisure and family interactions [...]. I put in a television, one set of sofas, and a dining table [...]; my grandchildren do their school homework here [...]. Here, I also practise playing the* gender [a traditional musical instrument] *every evening [...].*
>
> I Made Widana, 41 years old, 12 August 2011

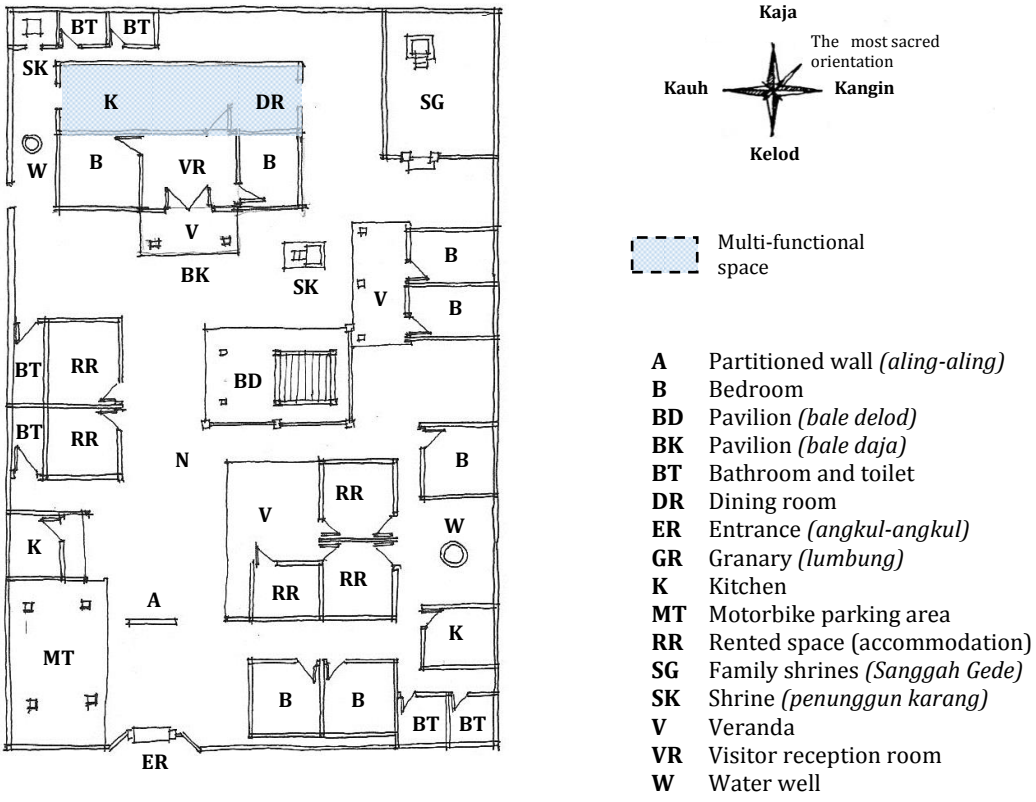


Figure 5.20. I Made Widana's dwelling

The kitchen and dining room are arranged in the same space without a partition. This creates a big room that can accommodate many domestic activities

Data from the above cases illustrate that the dining room has the highest spatial adaptability and flexibility. As well as an eating space, this room can also accommodate several other domestic activities, such as social interaction, leisure, home business, preparing offerings, and at certain times, it can be used for working and studying. Most occupants even accept this room as the centre of domestic activities. Nevertheless, other dwellers mentioned that the living and dining rooms have the most spatial adaptability and flexibility due to the effects of transformation.

In brief, spatial adaptability and flexibility results from a set of physical variables, such as room size and furniture type. A complex relationship between the perceived space and the actual dwelling size in terms of spatial organisation constructs the spatial awareness of the occupants. Furthermore, an appropriate spatial organisation can encourage adaptability and flexibility in use. In this respect, the improved spatial organisation creates different levels of housing satisfaction, as a result from either the suitability of the layout for multi-functional rooms or the potential of the house for changing according to various needs.

5.3 Home Quality: Why do They Need a Home?

5.3.1 What Makes a House a Home?

Western philosophers and writers have widely accepted the experience of dwelling and the significance of the home as a universal human experience. It can be said that the home embraces a range of concepts such as family, social networks, self-identity, privacy, continuity, personalisation, behaviour, the dwelling, and the childhood home (Smith, 1994:39-40; Hayward, 1977:10–31). Lawrence (1987:91) expands on this by saying *"... the design, the meaning, and the use of dwellings are intimately related to a range of cultural, socio-demographic, and psychological dimensions".* Thus, the experience and action of emotion is an integrated aspect of the social, cultural, and psychological importance of home.

Nevertheless, Tognoli (1987) specifically suggested that researchers who are concerned with housing should attempt to find a distinction between house and home. He proposed five general attributes – centrality, continuity, privacy, self-expression and personal identity, and social relationship – which can distinguish a home from a house. Referring to Tognoli, this section aims to describe the necessary conditions of house attachment and the essential qualities of a home.

1. Centrality

The home is a primary territory and the house owners of such territories expect relatively permanent and exclusive control. This territory creates a central and greatly significant aspect for the owner. As a result, it is reasonable to find evidence of this centrality in the field surveys of this study. Made Riady, who lives in a traditional dwelling, is talking about the experience of home as a primary territory:

> *[…] the wall that surrounds this house has created a feeling of security […]. I feel like it is a refuge from the outside world. It separates my family from the neighbours […]. However, at the same time, all in these premises are under my supervision. I am able to control from my 'palace' […].*
>
> Made Riady, 67 years old, 24 August 2011

Centrality also means that the home is *"a base of activity"* (Hayward, 1977 in Smith, 1994:32), so the house offers *"a physical centre for departure and return"* (Smith, 1994:32). As a centre, the house provides the occupants a place for their personal lives. They experience an emotional expression of centrality when they can permanently control the private place which accommodates their domestic activities.

2. Continuity

When the occupant feels a sense of belonging to a place to it is possible to return, this in turn can stimulate a feeling of continuity, stability and permanence in that place. Tjokorda Gede Atmaja and I Ketut Adianta, who are occupants of low-cost housing, explain this preference:

> *[…] In spite of the fact that Ubud is an hour away from this place, I commonly return to Denpasar. My wife and I never stay overnight in my hometown, even on the great occasions […]; we have a big passion for going home […].*
>
> Tjokorda Made Atmaja, 54 years old, 29 July 2011

> *[…] as a driver in a travel agency, I occasionally drop some tourists elsewhere, beyond Denpasar. However, I usually get back; I do not have a habit of sleeping anywhere but my house […]. […] I get homesick […].*
>
> I Ketut Adianta, 38 years old, 23 August 2011

This preference expresses the psychological attachment of the occupants to their houses, as well as their desire to return home soon wherever they may be. The house therefore acts as a root for the occupants and a place to which they feel they should return.

3. Privacy

Feelings of privacy and sanctuary are important characteristics of a home. The control of space can be exercised by means of the control of social interactions within the domestic space. This implies a state of privacy or control of access to the self (Altman, 1975). Komang Budi Artawan reveals his home experience (see Figure 5.21.):

> *It does not matter that the fence of my house is made from metal with railings […]. Everyone who passes through the street is able to see everything in the front yard […] I relax with my wife or grandsons on the veranda, in either the afternoon or at night […]. The fence makes it possible to uphold privacy, and it produces a feeling of comfort […].*
>
> Komang Budi Artawan, 61 years old, 29 July 2011

Figure 5.21. Komang Budi Artawan's house

The front yard of this house creates feelings of privacy. From here, the occupant can control his territory.

Privacy leads to feelings of ease and relaxation. Indeed, a feeling of control within the home is a noticeable need for most people. This home experience provides a marked feeling of at-hominess (Smith, 1994) and the process of refreshment of both physical and psychological energy. When there is control of space and privacy in the home, the occupants are able to relax and feel a sense of freedom in their private territory.

4. Self-expression and Personal Identity

One important quality of a home concerns self-expression and personal identity. Made Mandika states that a home provides conditions for an inhabitant's self-expression and personal interest (see Figure 5.22.):

> *The limited area that I have in this house has inspired me to make optimal use of the front yard. I have so much enthusiasm for gardening [...]. In order to express this, I planted some flowers in pots. Those were put on the hedge [...] and racks. [...]. All neighbouring houses dub my house* "the garden house" *[...]. The garden represents my property [...].*
>
> Made Mandika, 54 years old, 30 August 2011

I Made Sandy Aryawan describes how their home is closely related to their self-identity and how it serves as a symbol both of how they see themselves, and how they want others to see them.

> *However, although it is just low-cost housing, maintaining the Balinese style is essential [...]. That is why I situated Balinese ornaments on the wall, and built a new gate* to replace *the old one. I also placed an assembled granary in the corner [...], a shrine beyond the area [...] to achieve the Balinese atmosphere [...]. I believe that everyone is able to recognise the owner through the appearance of the house [...].*
>
> I Made Sandy Aryawan, 53 years old, 29 August 2011

Figure 5.22. Made Mandika's house
A little garden can express the personal identity of the owner.

The above interviews illustrate how the occupants communicate their identities in the house in many ways. Such a house is a display of individual self-identity and self-esteem. In other words, the house is a portrait of the self, so observers can accurately predict the self-concept of the owners when they see the appearance of their homes.

5. Social Relationships

An important factor of the home environment concerns the dweller's relationship with others, or the interpersonal aspect of the home and the close relationship with the environment which surrounds it. The home is the centre of a spatial linkage, which includes the neighbourhood, workplace, school, and other points within the social network. Such social networks are based on the relationships within the home. I Ketut Tomi and Made Mandika illustrate this in the following interview excerpts:

> *Even though this house has no adequate spaces for both family life and the business I own, I have no desire to find another place [...]. It is located in the inner city; what a strategic area! [...]. [...] my children's school is no more than five minutes walking distance [...], and my wife can catch the traditional market in around ten minutes [...].*
>
> I Ketut Tomi, 34 years old, 19 August 2011

[…] living outside the city centre is no issue for my family […]. We are settled in a friendly neighbourhood […]. Banjar *organises the community and its activities […], this social networking creates good relationships for us […].*

Made Mandika, 54 years old, 30 August 2011

I Wayan Sandiasa, who occupies a traditional house, tells of how the location of the school has motivated his grandchildren to stay with him and leave their parents' house.

[…] my grandchildren are not willing to live in their house. The home is outside the city and is quite far from the city centre […]. They choose to stay with my wife and me, their grandparents […], getting to school easily […]; all their schoolmates live there […]. They do not stay at their parents' house on schooldays and let their parents pick them up at the weekend […].

I Wayan Sandiasa, 68 years old, 28 July 2011

The above explanations support the idea that *"in the minds of the users; a home is a complex multi-dimensional concept"* (Smith, 1994:34). A combination of the experience of a physical and social environment and a place for personal satisfaction is needed for the occupants in order for them to perform important social and personal behaviours. The integrated human experience of the dwellers and control of their primary territories constitute the act of dwelling with regards to defining the house as a home.

The emotions of the occupants play an important role in the process of becoming at home, and in what makes a house a home. The notion of home is most frequently embodied in *emotional experiences*, and these experiences must be seen to possess certain qualities of a house. Ultimately, the interviews also provided empirical data, which support the notions of centrality, continuity, privacy, self-expression and identity, and social relationships as the essential preferences of the dwellers in a home on a general contextual level. Furthermore, they delivered a range of key qualities that are necessary in a home environment. This context determines how a home is perceived to differ from other residential environments.

5.3.2 Why Do They Live in the Current House?

Denpasar provides a good setting to explore city dwellers' responses to socio-cultural change and the occupants' assessment of living in different housing conditions. These conditions explain a series of phenomena from rural to urban areas and from traditional multi-compounds to single compounds with limited space. Nevertheless, housing should be considered as one element in an interactive system of the occupants' responses to their total living environments, including the social and physical aspects. Lawrence (1985:14) identifies the home property as *"a store of culture, tradition, and ritual"*; it seems that the home can also be usefully conceptualised as *"an emotional warehouse",* which can be experienced as powerful, real, and with dynamic symbolism and meaning given to rooms and spaces. For this reason, this study has investigated the occupants' perceptions of the conceptualisation of dwellings and reasons for living in the current home. From the case studies, it is clear that the occupants determined the most significant conceptualisations of a dwelling were *the place where the family feels most comfortable* and *the place which completely belongs to oneself*. The next interviewee, who lives in low-cost housing, illustrates this perception:

> *I think a home is more to do with feelings. A home is somewhere you feel loved […]. It is nice to come home and feel safe with the people you love. […] I do not think it matters where you live - a house, a walk-up flat, even a hut - as long as you have the feeling of love, safety, and security, you feel comfortable […]. I have this atmosphere in this house […].*
>
> I Nengah Tangkas Swacita, 46 years old, 21 August 2011

I Made Riady, who spends all day in a traditional dwelling, states that the current house is a physical shelter that stores a series of his life's memories.

> *[…] I have memories of every piece of brick of this house, every part of these pavilions […] my childhood… my mother, father, my children… and now my grandchildren […]. It is a series of life memories […].*
>
> Made Riady, 67 years old, 24 August 2011

Meanwhile, findings in low-cost housing also show some reasons why the occupants have chosen to live in the present house. These are generally related to the buying capacity of the occupants, followed by the location of the dwellings, such as being located in a strategic area or a clean section of the city. A few occupants mentioned considerations such as familiarity of the place, proximity to relatives, ease of transportation, and access to shopping areas, work, or school. This can be seen in the following interviews:

> *No other reasons… money is the main constraint… I wish I could buy a big house with many rooms and a yard surrounding the house, but in fact, I cannot afford it […].*
>
> I Ketut Gunawan, 43 years old, 12 August 2011

> *[…] I would lose everything if I moved somewhere else from this area. I would feel like a fish out of water […]*
>
> I Made Gede Sudiartha, 57 years old, 16 July 2011

> *We used to sit at the side along the alley, people used to gather while smoking and having a cup of coffee. We used to sit there in the evening after coming home. We used to watch passers-by chatting, talking […].*
> *For instance, from here to there you feel like you came home. If something happens today after I leave, I know I have left the house safe. At least, my neighbours see who comes and goes […]. The best alley is ours. It is a clean alley […]. We are not afraid; it is trusted day and night. I go to bed without closing and locking the doors at night; we trust our neighbours […].*
>
> I Ketut Adianta, 38 years old, 23 August 2011

> *Even though this house is inadequate for my family […], my business as a computer supplier has taken some habitable space in the house. The storage on the second floor is over capacity, so the house looks so messy and untidy, with used computer hardware and boxes everywhere […].*
> *However, I am not willing to find another place instead of the current home […]. This house is located in the inner city, near the school and shopping centre […]. Importantly, this location can support my business. Customers and suppliers can access this place without hassle […].*
>
> I Ketut Tomi, 34 years old, 19 August 2011

The previous section highlights the fact that the current house relates to the personal aspects of home, including physical and social experiences. Physical features of the home with comments on the location of the house, such as 'close to work, market, and the school', 'a strategic area for my business' or 'it is located in inner city' are common points of consideration in low-cost housing. Meanwhile, some comments on the internal relationship are also representative of this theme; for instance, 'a reasonably happy home… with close relationships with the loved ones, wife and children', 'lovely to be part of this family' or 'my little dog always stands up in the main door while waiting for me to come home' are common. A few occupants in traditional dwellings commented on the external social relationships, offering comments such as 'a place where my daughter will return to visit me in her school holidays' or 'my grandchildren visit every weekend'. Moreover, a few cases also highlighted the aesthetics of their home: 'a pleasant open pavilion for relaxing', 'architectural Balinese style with ornaments and local material', 'an old house … but really nice to be settled here' or 'a big family garden at the rear'. All of the above comments illustrate the importance of their homes in aiding the development of their personal themes.

Nevertheless, when the occupants were asked about where they would live after retirement, most of those in low-cost housing expressed an intention to spend the rest of their lives in the *kampung*, not in their present home. This is due to the fact that their *house of origin* in *kampung* has an important role in their lives (see section 5.1.2).

Importantly, cultural ties are a main reason for living in the current house for occupants in traditional compounds. As discussed in section 5.1.2, all of the case studies in traditional compounds assert that not moving is an appropriate decision with regard to maintaining the existing house as the *house of origin* of the extended family. There is no possibility of moving out. Here, cultural reasons play an important role in the decision to improve traditional compounds. Subsequent generations will most likely maintain the existence of the house.

In conclusion, it can be said that house satisfaction appears as the occupants' needs are fulfilled, such as emotional experiences (Lawrence, 1985). Thus, in response to their actual homes, the occupants may feel that their needs are being met to a certain level, but may hope to make changes to achieve their ideal homes in the future. Accordingly, the occupants who live in traditional compounds, perceived their homes as being closer to their ideals due to cultural reasons. It can be understood that all occupants in those houses desire to live in their current house for the rest of their lives.

5.4 Future Prospects: How the House Should Be

5.4.1 The Opinions of an Ideal House

This terminology includes a time dimension, meaning there is an object of the built environment in the past, the present and the future.

> *The home place is full of ordinary objects. We know them through use; we do not attend to them as well as we do to works of art. They are almost a part of us, too close to be seen* (Tuan in Dinc, 1997:159).

That is to say, a home is the reflection of the dissimilarity between the self and others. Home is also an entity which consists of both the physical and the human. Self-expression is one of the basic human values. Using all of the occupants' potential is the main idea of self-actualizing (Rapoport, 1995:27). Occupants' satisfaction relates to fulfilment of needs, whereas preferences concern wants (Vischer, 1985). This section focuses on the occupants' aspirations in terms of an ideal house. The majority of the occupants' reactions to these ideas indicate a propensity for an intimate environment. Some describe that using all of the potential of the occupants requires a specific relationship with an intimate environment, such as a desire to live in a house with a garden, or greenery around the dwellings. Two occupants express how this can be:

> *I have a dream of living in a stress-free house with many rooms and a back garden […] with rice fields surrounding the house […].*
>
> I Ketut Gunawan, 39 years old, 12 August 2011

> *[…] houses with a country park […], a house needs a garden; if a garden is missing, it looks like a prison. […] It is a life in low-cost housing; you cannot call this house a home. You open the door and everything is closed in. You cannot get fresh air and cannot see the sunshine in the garden […].*
>
> I Wayan Sumerta, 49 years old, 21 August 2011

Additionally, occupants desire to build their ideal house according to their own designs. This is revealed in the interview below:

> *[…] my dream house is one that I could design and build in my own way […]. It has many rooms and a back yard […] the whole family can stay and live there comfortably for the rest of their lives […]. I cannot find anything of my dream in my current house […].*
>
> I Wayan Sudri, 51 years old, 20 August 2011

According to these investigations, it appears that the ideal house for the occupants manifests itself in response to their current houses. They may hope to change their houses into an ideal home in the future. This aspiration can be found among dwellers in both traditional compounds and low-cost housing. Commonly, their hopes for an ideal home concern the relationship between the environment and the dwelling. Building density and the limited space of the actual house are the reality that inspires this desire. Other factors concerning the ideal home relate to the occupants' views on the affordability of satisfying current and future housing needs, particularly for low-income families. This affordability mainly results from the nature of the process of housing delivery, which does not enable the occupants with limited finances to participate in decision-making at the design stage or during the process.

5.4.2 Will the House Continually Change?

People are generally satisfied with their social and physical environments (Michelson, 1980). This may be because they either adapt to their surroundings or, in the case of disparity between their needs and their present living environments, they may move somewhere else and change their dwelling (Tognoli, 1977). People's needs are changeable across time and at various stages of the life cycle, as Michelson (1980:138) notes: *"aspects of housing satisfaction*

revolve around the dynamics of attitude management over time, within the minds and lives of individual and families".

Section 5.1.1 describes how the housing gap occurs due to a mismatch between the expected and the current level of housing consumption. From interviews in the field, it is revealed that the opinions of the occupants in connection to the ideal house also contribute to this gap, which can be incurred by a variety of factors, including changes in housing demands arising from changes in the family growth, the family's socio-economic circumstances, tastes and preferences. Nevertheless, from the cases revealed that family composition and size are the fundamental determinant and imply changing spatial requirements and desires. The family life cycle modifies the needs, desires, and abilities of the family. Thus, an adjustment is needed in order for the house to be suitable.

Section 5.1.2 clearly explains that improving the house is the common choice for urban dwellings in Denpasar. Those in traditional compounds have no option to move house due to cultural reasons. This reveals the housing consumption pattern of home improvers in an effort to understand why improvements are undertaken. All improvers tend to make *upward* adjustments in order to get larger and better housing. Most occupants in this study made improvements that resulted in more room and space or in an enhancement of the quality of the house. By relating the type of improvement with the socio-economic characteristics of the improver, it can be seen that improvements are mainly undertaken to meet changing housing needs and preferences arising from changes in the family demographic and economic circumstances, and the expenditure on improvement is constrained by the family's level of income, wealth, and financial commitments.

All evidence from low-cost housing shows that young couples prefer to buy or rent a small house to start life. They then live in it and improve it when their level of housing consumption changes (see section 5.1.1). Interestingly, the housing demands of a family have a tendency to grow gradually, reach a peak as the family matures and grows, and fall sharply after the children leave home. This situation has an impact on family income.

> *The reason I extended the house was that both my daughters needed a separate bedroom. As young women, they required privacy for their own personal lives […] and other rooms for new demands […]; the house was not big enough at that time. However, when they left this house due to marriage, we had many empty rooms […].*
>
> I Wayan Sugiatma, 54 years old, 29 July 2011

> *The family income has increased in the last eight years. The growth of the assets of my business indicate this […]. Two years ago, I decided to demolish the existing house because of family growth […]. The domestic income at that time allowed me to rebuild on three floors with good-quality materials and design, changing from typical low-cost housing to a new one in the Balinese style […] the current one expresses my identity […], so everybody knows that this is my house […].*
>
> I Made Sandy Aryawan, 53 years old, 29 August 2011

In noticeable contrast, house changes are sometimes made in expectation of, rather than in response to a change in housing demands. For instance, some occupants have an expectation of having a car in the future, prospects of generating family income, or anticipation of having one or more children in the next five years. This evidence can be found in low-cost housing,

whereas housing changes in traditional compounds are mostly driven by the expectation of having extra income in the future.

> *[…] hmmm I am thinking […] a car is the answer for family transport […]. A car could help me to drop my children at school, or to take my family to our hometown. Having two motorbikes now is quite hard […]. My wife and I work in different companies in separate places […]. Nevertheless, I should consider providing a space for at least a four-seated car […].*
>
> I Gusti Ngurah Meryana, 38 years old, 15 August 2011

> *I have two sons, but my wife desperately wants to have a baby girl […] we are waiting until the youngest will be eight years old, or in the next five years. That will be a good time to have a newborn. During that time, I will be able to save extra money for a vertical extension of the house […]. The baby surely needs a new bedroom […].*
>
> I Ketut Artayasa, 35 years old, 23 August 2011

> *What should I do after retirement? I cannot imagine the answer to this question. I am afraid I will get post power syndrome […]. Just stay at home all day, and no office hours […]. Starting a home business could be a good idea […] having a small shop or a counter of mobile phone accessories or something else […]. I am aware that my monthly income will fall when I become a pensioner, but making money could help me to increase my family income again […].*
>
> I Wayan Sumerta, 49 years old, 21 August 2011

The occupants tend to change their dwellings continually because of two factors. The first is the assessment of their housing consumption, and the second is the decision to improve the house. Both conclusions result from a gap between the current and the preferred level of housing consumption, and the costs and benefits attached to improvement. The gap is driven by several factors, including an increase in housing demands because of changes in life-cycle events, family, or socio-economic circumstances, tastes, and preferences. All improvers make changes in order to obtain more space and more rooms and to enhance the quality of the dwelling. Whilst the housing demands of the occupants grow over time, their house simultaneously change and housing satisfaction is also slightly increased. Nevertheless, the demands of space will decrease when the occupants enter the post-family stage.

5.5 Conclusion: the Nature of the Interactions

This chapter began with an inquiry into housing satisfaction from a qualitative point of view. Housing could be considered sufficient and adequate when the needs of the socio-cultural characteristics, aspirations, and lifestyles of the occupants are fulfilled. The occupants continuously evaluate the house quality. A gap may occur between the real and the preferred level of housing consumption. The composition of the family is a fundamental determinant of housing needs; family growth from a new couple to a family with children has an effect upon increased housing needs. In other words, family life-cycle events frequently drive housing needs. Thus, choosing to improve the house is a common option, whereas moving out is not necessarily a better option to obtain better housing quality, particularly in traditional compounds. Costs for housing adjustment by moving are higher than for improvement. These

costs include financial outlay and psychological consequences, such as losing socio-economic ties and socio-cultural attachments to the existing house and environment.

The second part of this chapter investigated how and why the occupants adjust their dwellings, in terms of either or both changes and improvements. Some predominant factors motivate the occupants to transform the dwelling. From the evidence, it is clear that the most common motivations are the requirements of the occupants, inappropriateness for the context, and the incompleteness, deficiency, and inadequacy of the dwelling. Family growth leads to an increasing number of domestic activities and the need for more space. Inevitably, the occupants have to make some effort to adjust the house. Then, most cases reveal that improvement by means of extensions, either horizontally or vertically, and alterations are the most common methods of transformation by the occupants. Meanwhile, in traditional compounds, the occupants prefer to replace obsolete pavilions with new buildings and change room functions and the use of space. Transformation has affected the increase in housing space, including dwelling size, habitable space, and dwelling space per person. Another effect is the satisfaction gained from spatial adaptability and flexibility in use that are relevant to spatial organisation, dwelling and room size, and furniture type. The dining room has the highest of both of these, followed by the living room. Some occupants accept the dining room as the centre of domestic life.

The third part of the chapter revealed the essential preferences that differentiate a home from a house in the process of becoming a home. With reference to Tognoli (1987), five preferences have been identified to find the essential qualities of home: centrality, continuity, privacy, self-expression and personal identity, and social relationships. Emotional experiences play an important role in this process. Housing satisfaction is also apparent in the occupants' responses to questions about why they live in their present houses and intend to do so for the rest of their lives.

The last part of the chapter discussed the occupants' opinions about their future housing needs. They desire an ideal house with regard to intimacy with the environment around the dwelling and as an expression of their own ideas. In addition, opinions regarding the features of their ideal house and the gap between the actual and the preferred level of housing consumption motivate the occupants to make a house change. All improvers tend to enhance the quality of the house. The next chapter will discuss how the occupants order the house over time in order to reconstruct socio-cultural elements.

chapter 6

Reconstructing Socio-cultural Elements

Chapter 6. Reconstructing Socio-cultural Elements

Home can be a room inside a house, a house within a neighbourhood within a city, and a city within a nation. At each level, the meaning of home gains in intensity and depth from the dialectical interaction between the two poles of experience –the place and its context at a larger scale… Home is a place of security within an insecure world, a place of certainty within doubt, a familiar place in a strange world, a sacred place in a profane world. It is a place of autonomy and power in an increasingly heteronomous world where others make the rules.

(Kimberly Dovey, Home and Homelessness, 1985, p.46)

Reconstructing Socio-cultural Elements

Revealing the Phenomenon

Balinese culture and society have been facing cultural transitions, shifting from agriculture to industrially based economy. Interaction between the Balinese and other cultures, through the process of modernisation, has brought about this rapid change. This affects, and is reflected in, almost all aspects of life, including architecture. The function of the house is no longer solely to be a domain for family living, but also as production space. Heterogeneity of house design reflects diversifications of social structures, perception, economic capabilities, housing desires, etc.

Ngakan Putu Sueca, discussion, 26 July 2011

Sueca's useful insights can be taken to imply that as a part of a manifestation of socio-cultural processes, it seems that cultural transition has driven house transformation. Transformation reflects how people try to integrate the new values brought by modernisation with the old traditions. The dwellers have never been isolated subjects, but interacted in the larger community, sharing values and norms. In the present context in Bali, tourism development, modernisation and urbanisation have influenced people to change aspects of their culture. One of these changes has been in response to coping with a form of culture change model, namely acculturation, which is evident in this study. Most essentially, modernisation takes place through intercultural processes, contact, interaction, or conflict, between the local traditional culture and global culture (Rapoport and Hardie, 1991:36).

Inquiries into Sueca's (2003) research cases over ten years have helped to develop an interest in the house as the socio-cultural order of the dwellers. That is to say, socio-cultural and contextual variables interplay in the complexity of interactions between urban housing

(domestic architecture) and spatial organisation in the process of transformation. The significance and recognition of houses prompted the need to explore spaces, especially their physical and functional characteristics. In addition, socio-cultural issues may influence the transformation process. By comparing the house in 2001 and 2011, its transformation can be seen as a process of cultural identification, or as a dynamic process of integration between old and new cultural elements. Therefore, both continuity and change in this phenomenon, either in physical or behavioural terms, can be noted.

To avoid misinterpretation when comparing the two stages of house transformation over ten years, analysis data used diachronic dimension. Furthermore, it is necessary to consider the activity systems and systems of settings to define the terms *house* or *dwelling.* Systems of activities actually occur in systems of settings, which are organised in varying and complex ways. All include space and time and relate to culture.

A key question emerges about how the process of housing transformation articulates specific aspects of the socio-cultural lives of the occupants of urban dwellings in Bali and how the occupants order these aspects. This chapter analyses the phenomenon of how socio-cultural and contextual variables intersect in the process of housing transformation in order to reveal how the domestic space is used with respect to the changes in the manner of people's habitation. Because the house is deeply rooted in the past and has considerable inertia to change, it is possible to distinguish some aspects of dwellings which are maintained as a result of past tradition, and some aspects which are less important. Moreover, there is an opportunity to observe any new elements which have been adopted.

This chapter consists of three major parts. Each part explains how continuing socio-cultural processes modify behavioural settings, as well as how they shape and change housing layout. The first part describes domestic activities in Balinese houses, which are classified into two groups of activity: ritual and daily. All are practiced as a system of activity of the dwellers. Attention is also paid to domestic life that is oriented to socio-cultural order to highlight more perspectives on other activities, both ritual and daily. The second part of this chapter provides a complete explanation of how the occupants order cultural settings in terms of the inhabiting process. It considers several main issues, including sacred and profane spaces with regard to hierarchy and sacred orientation, the house as an expression of the universe, and how the occupants fill their houses to express the desire of home making. The third part aims to reveal how hybridisation leads to the new culture of the occupants. At the end of the chapter, a preliminary conclusion of the main issues is given, concerning the reconstruction of the socio-cultural elements of the Balinese house through a spatial-temporal order over ten years. Finally, the preliminary conclusions from both Chapters 5 and 6 will be synthesised deeply in the next chapter.

6.1 Domestic Life: How Do They Spend Their Days?

Rapoport (in Kent, 1990:11) points out that activities are direct expressions of lifestyle and ultimately of culture. The specifics of activity in the house are mediated by culture. House and domestic life cannot therefore be looked upon as a single activity, but must be considered as activity systems. That is to say they involve the specifics of activity systems, in what order or

sequence they occur, the nature of these sequences, how they are linked or separated, who is involved, where and when they occur, and other interconnected variables. In the context of this study, activity systems are inevitably organised in space and time.

Six basic domestic activities – sleeping, eating, cooking, washing, bathing, and storing – are common to all cultures (Faqih, 2005:237). Nevertheless, the increase in these facilities is largely related to the ideas and values of dwellers in their specific context and at certain points in time. Those domestic activities and their facilities eventually become culturally variable. Section 4.4.2 defined the term *house* from a Balinese perspective. In that discussion, apart from being a shelter, Balinese also interprets a house as a cultural entity. A house can be a directory of important events from the past, a repository of ancestral objects, a ritual attractor, and the centre of social ceremonies. From the cases studied here therefore, domestic activities in Balinese houses are grouped into two types of activities: ritual and daily. Bringing together all activities in context and time, house possibly accommodates how the dwellers spend their days.

6.1.1 Ritual Activities: Life is a Sacred Time

Eliade (1959:43) holds that the house, like a temple and city, becomes a symbol of the universe with God at its centre and in charge of creation. A house is purified by ritual procession and is still regarded as the dividing line between the sacred and profane worlds. He also highlights that the threshold of the house is regarded as one of the most important dividing lines between the inner private space and the outer public world.

A description of Balinese housing reveals much of what Eliade has presented. Their cosmological perspective, particularly in relation to their belief in the influence of the ancestors on their lives on earth, appears in the cultural space of the house. The Balinese believe that life is sacred, and that each stage of life is sanctified by ritual. A ritual series of the life cycle starts from the period of pregnancy and ends with death (Geertz and Geertz, 1975). People respect this belief and practice this tradition over generations. In traditional compounds, occasional ceremonies take a place in *lebuh* (the main gate area), *natah* (the inner house yard), or *bale dangin* (an open pavilion for ritual processions), and *sanggah* (family shrines). According to the sacred manuscripts (*Siwagama* and *Purwa Bhumi*), *kemulan* is one shrine in the *sanggah* which is the palace for the ancestors and symbolizes the sacredness of life. Those manuscripts recommended that each Hindu's extended family build this shrine. It is commonly found in traditional dwellings that are the *house of origin* of one extended family (Putra, 1985).

Nevertheless, from interviews in traditional houses, it can be noted that the house which is extended with many compounds encourages dwellers to carry out these ceremonies on the street or in the *bale banjar* (communal hall) and to involve the customary village. This is mostly for *metatah* (tooth trimming), *pawiwahan* (traditional wedding) and *memukur* (funeral ceremony), in which the dweller invites and involves many people. The main procession is still practiced on the house site, but other supporting activities, such as entertaining visitors, preparing *bade* (traditional coffin), are conducted either on the street or in *bale banjar*. The following is one part of an interview which reveals this to be the case:

Figure 6.1 Sanggah

(left) *Kemulan* is a palace for the ancestors and symbolizes the sacredness of life.
(right) The completed *Sanggah.*

> *[...] I invited many people to my son's wedding, not only extended family, but also colleagues, neighbours, and customary villagers [...], [...] there is not enough space in my house to entertain all of the people invited. [...]* Bale banjar *is a good choice. The site of this communal facility offers a big capacity for accommodating the visitors [...].*
>
> I Gusti Ngurah Oka Putra, 68 years old, 28 July 2011

Similarly, another interviewee illustrates the same situation:

> *[...] The* bade *for placing my father's corpse was big and tall. It meant we could not assemble it in the house yard. [...].* Natah *has not enough space because of new pavilions; also, the house is also located a narrow alley [...]. Finally, the customary village helped us arrange a* bade *in one half of the street. We could assemble it after getting permission from the local authority [...].*
>
> I Wayan Sandiasa, 41 years old, 28 July 2011

On the other hand, the dwellers in low-cost housing can be said to have more problems in providing space for occasional ritual ceremonies. They practice these ceremonies in the traditional dwelling where they are from because this dwelling is believed to be a derivation of their lives, a place in which they can commune with their ancestors. For them, low-cost housing functions just for shelter and it is understood that no spirit can be found in such a house. This was confirmed in an interview with I Gede Ardana:

> *I am not able to conduct all ceremonies in this house because there is no* kemulan *in the* sanggah *[...]. As a result, we have to conduct occasional ceremonies in the house of origin [...]. I could not ignore the important role of my ancestors [...], all 'my spirit' is in that house. My house in Denpasar is just a shelter. It is no more [...].*
>
> I Gede Ardana, 35 years old, 26 August 2011

Another cause of this phenomenon is that of limited space. A completed *sanggah* consists of several shrines with different functions, all of which require quite a large area. Low-cost housing is unable to accommodate *sanggah,* and therefore the dwellers only build two important shrines in *sanggah*: *padmasari* (the shrine for God) and *penunggun karang* (the shrine of Security God). I Ketut Gunawan discusses this as follows:

> *I have to conduct each ritual ceremony in my hometown in the Northern part of Bali [...]. It takes over three hours to reach that town [...]. Accordingly, my family is exhausted because of these trips. [...] I would like to provide a* kemulan *in* my house in the future*, but the space is limited. As a result, I currently just have space for two important shrines,* padmasari *and* penunggun karang *[...].*
>
> I Ketut Gunawan, 38 years old, 12 August 2011

The Balinese practice two ritual activities: praying on great days and daily praying. They prepare offerings of flowers daily, and little is needed effort to assemble and present these around the house. In contrast, on the festivals, people have to present all kinds of offerings in many places, such as the village temple, the office where they work, schools where their children are receiving education, or other places that need to be included in thanks to God and the ancestors. Unlike daily praying, preparing and arranging *sesajen* (offerings) uses much space. In traditional dwellings, *sesajen* are usually prepared in *bale delod* (an open pavilion for working); a *bale-bale* (platform) in the *lumbung* (granary), *paon* (kitchen), or open pavilion is a second option. Meanwhile in low-cost housing, the dining room, kitchen, and veranda are commonly used for these activities.

Two things could be noted as changes in ritual activities in the house over the ten year period investigated in this study. The first is the change in conducting ritual ceremonies that involve many people in traditional compounds. Due to the limited space as a result of adding new compounds, the dwellers hold the ceremonies at the side of the street or in communal facilities. This has an impact in that domestic space is used to carry out the main part of ceremonies with *sanggah*, *natah*, and *bale dangin* as the main site of activities. Meanwhile, the *lebuh* that should be the transition space from the outside to the inside of the yard is only used as a site entrance, without an additional function for occasional ceremonies. The second change is that it is mostly dwellers in low-cost housing who prefer to buy offerings for both ritual activities, particularly young couples who do not have enough time for carrying out daily home activities. This is also found to be the case in traditional compounds. For the celebration of festivals, the majority of dwellers purchase parts of offerings and assemble these at home. It can be understood that decreasing outside areas as a result of house extensions has led to a reduction in the number of activities which take place in or involve a garden. Coconut leaves, fruits, flowers, banana leaves, and other kinds of raw materials for offerings cannot be provided by the house itself. This change in culture activity, from homemade to purchased, does not affect spatial organisation and the use of domestic space.

Figure 6.2 Preparing offerings and praying are cultural activities in the Balinese house

(clockwise from the top left)

(1) *Gebogan,* or a big offering of fruit that women carry to the temple. These are arrangements of fruit, colourful flowers, cooked chicken, small rice pyramids, grated coconut, roasted peanuts and sweet cakes stacked on top of one another, forming cylindrical towers. These are not always combined together; however, *gebogan* will often be found and are made up of either just flowers or fruit, depending on the purpose.

(2) *Canang sari* or offerings of flowers.

(3) Preparing the offerings in *bale dangin* in a traditional dwelling and (4) in the dining room of low-cost housing.

(4) Daily praying with *canang sari*.

6.1.2 Daily Activities: between Old Values and New Ideas

1. Cooking and Eating

Tipple (1991:49) stated that *core housing* is a common principle in developing countries. It possibly concerns the assumption that the appropriateness of kitchen and sanitary facilities are beyond dweller capabilities. Therefore, he also added that some transformation activities have involved the removal of fixtures in favour of different ones and even the provision of additional services.

Cooking is an important activity due to the fact that it leads to specific requirements in terms of house design. Levi-Strauss (1970) regards cooking activity as a major differentiating factor between human and non-human species: only humans transform raw food into cooked. How people cook, or otherwise transform food, is already extraordinarily varied. Furthermore, cooking is a universal domestic activity, but in practice, this activity is culturally variable. Referring to his research in Madurese houses, Faqih (2005:238) explains that this kind of activity is not only the responsibility, but also represents the dignity of women. He also added, in the context of the rural area where the farmer dwells, food preparation involves the raw materials directly harvested from nature, such as rice, corn, cassava, coconuts, and firewood. This preparation also requires the provision of storage, which impacts the house design. From the fieldwork in this study, it is clear that similar views in relation to cooking prevail in Balinese houses, where cooking is not simply a domestic activity, but it also has a specific meaning related to the self-esteem of women; thus, cooking and storage needs must be taken into account in the design of Balinese houses.

The Balinese have two kinds of food preparation. The first is aimed at preparing the daily food consumed by the family. This activity is done inside the kitchen or in a separate small building of a traditional compound. The second type of cooking can occasionally be done outdoors, in particular on festivals or traditional ceremonies. These foods are meant as part of the offerings to God in a series of festivals. Owing to the limits of space, cooking for occasional celebrations is also practiced in the same space of the house, particularly in the kitchen.

Similarly, outdoor cooking can be done for traditional ceremonies, like *pawiwahan* (traditional wedding), *otonan* (traditional birthday), and *metatah* (tooth trimming). Such activities are performed together with extended family and neighbours. They enthusiastically arrive and voluntarily help the dweller who has a ceremony. They also wear traditional costumes as a symbol of togetherness.

From observation of the urban dwellers who live in traditional compounds, it can be concluded that they mostly intend to maintain the existence of the *paon* (kitchen). Cooking space is located in a separate building, either in the south of the house yard or in the back yard. Nevertheless, few dwellers feel the necessity for the existence of the *lumbung* (granary) as storage for food materials. Meanwhile, in many low-cost houses in Denpasar, cooking for daily consumption takes place in a kitchen. Since they have limited space, cooking for festivals is also practiced in the same space of the house, particularly in the kitchen.

Another domestic activity involved in the process of cooking is eating. Indonesians habitually have a meal three times a day: *sarapan pagi* (breakfast), *makan siang* (lunch), and *makan*

malam (dinner or supper). Spatially, Westerners eat while seated in chairs, while Indians sit on the floor, and ancient Romans ate lying down. However, in most ethnic groups in Indonesia, eating while sitting on the floor with legs crossed is preferable. Dining table sets are not common for the Balinese. Even among wealthy people, this type of furniture is not a priority. They have this tradition on occasional ceremonies; this is known as *megibung*. Nevertheless, the Balinese like to have a daily meal in the privacy of their kitchen; there is no serving the food on a dining table. Otherwise, after taking the food in the kitchen, they finish eating it outside while sitting cross-legged on a veranda, in the granary, open pavilion, or in the yard.

Figure 6.3 Outdoor cooking of occasional ceremonies in traditional compounds

(above) Men in I Nengah Suma's traditional house were cooking the food for the offerings to celebrate *Galungan,* one of the Balinese festivals.

(below) The extended family of I Wayan Sandiasa and neighbours prepared the food for *megibung,* the traditional wedding party of his son.

Modern Balinese families, most of whom live in modern houses, generally provide a separate space as a dining room and eat at the table, together with the family. In contrast, it is evident from the survey that few dwellers in traditional compounds have a dining room. Even though they live in urban areas, they still follow the tradition of eating on the floor.

A number of changes in food preparation and consumption were immediately obvious in traditional dwellings. The first is the use of kerosene, a stove with a gas-bottle instead of a *tungku* (traditional stove), which may be motivated by a lack of access to firewood. The second change is piped water. Water from a well is pumped up and is drained through pipes on the way to the spaces that need the water. Figure 6.8 illustrates a *paon* that comprises modern

kitchen equipment and household utility systems, like electric and water, but at the same time, the dwellers also use *tungku* for cooking the food.

Figure 6.4 *Paon* and *lumbung* in a traditional dwelling

(above) *Lumbung* in I Nyoman Susila' house. He keeps this building for the storage of food and materials, such as coconuts, cassava, and firewood.

(below) Food preparation is located in a separate small building (left); open storage for putting firewood (right)

Figure 6.5 Kitchen in Made Mandika's house.

During a series of festivals, this space is also used by the dweller to cook the food for offerings.

Figure 6.6 Daily and occasional mealtime as a Balinese cultural activity

(above) *Megibung* is the tradition of having a meal as a symbol of togetherness.
(below) Daily eating habits do not involve serving food on a dining table, but it does take place in the kitchen (left)
or having a meal outside (right).

Figure 6.7 Dining room in low-cost housing

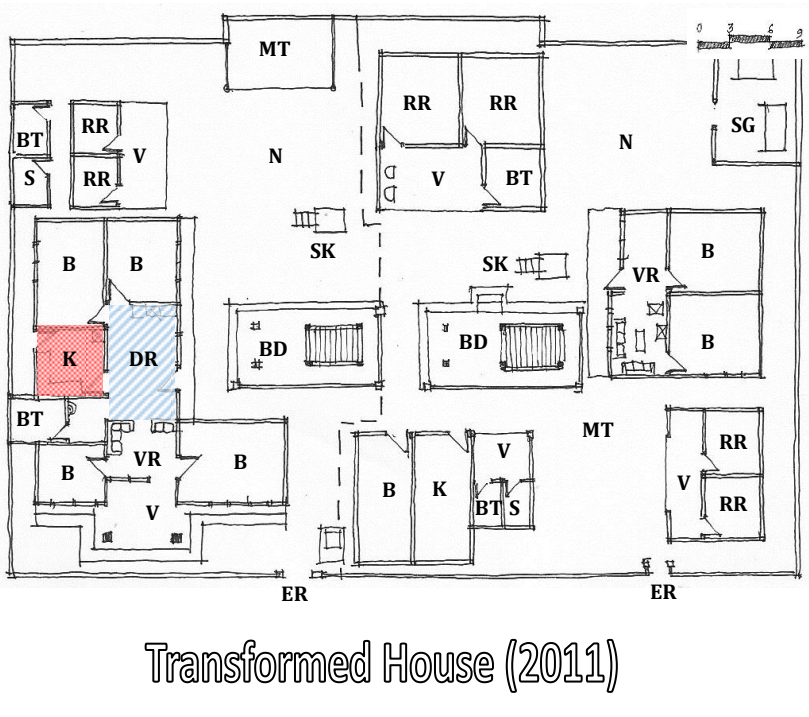
Dining room in Made Mandika's house (left) and I Made Gede Sudiartha (right)

Figure 6.8 Inside the *paon* in I Nengah Suma's dwelling

(above) A gas cooker is used to transform raw foods into cooked (left). Inside the *paon* it can be seen that this space has another type of stove with a gas-bottle. On the right hand side is a mini water tank, which utilises piped water and the tap (right).

(below) As well as the gas cooker, the dweller still has a function *tungku* with firewoods for cooking

Some of the cases studied clearly show that a *paon* is initially maintained as a detached building. In contrast, the kitchens in other cases are a separated room in a multiple-space house and have a connection to the main building. Lastly, the fourth change is the provision of a dining room in traditional compounds. Even though the house itself has no specific place for food consumption, the dweller makes this room available. Having a meal while sitting around a dining table is assumed to be an aspect of a modern life style and higher status.



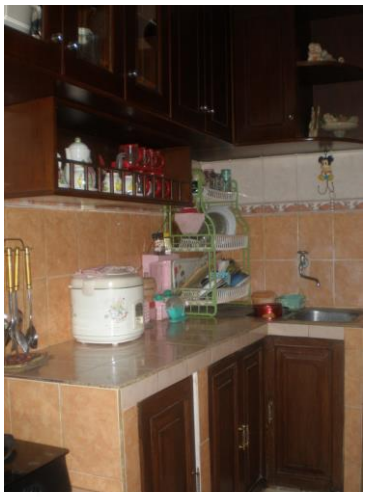
B	Bedroom	**G**	Garage	**S**	Storage
BD	Pavilion *(bale delod)*	**K**	Kitchen *(paon)*	**SG**	Family shrine *(Sanggah Gede)*
BT	Bathroom/toilet	**MT**	Motorcycle parking area	**SK**	Shrine *(Penunggun karang)*
DR	Dining room	**N**	Inner house yard (natah)	**V**	Veranda
ER	Entrance	**RR**	Rented space (accommodation)	**VR**	Visitor reception room

Figure 6.9 Paon and dining room in I Wayan Sandiasa's traditional dwelling

The Paon is a detached room and connects to the dining room in the main compound. The dining room is next to the *paon* and has a specific function in the process of cooking.

The changes in food preparation and the advances in kitchen equipment have led to different meanings for this domestic activity. For wealthy people who have a modern kitchen, this room is considered a prestigious area where they can display their valuable goods and their talent for preparing food. This phenomenon is not only familiar in traditional compounds, but also among a few wealthy people who live in low-cost housing: see Figure 6.10.

> *Working as a chef in a five-star hotel has inspired me to have a modern and clean kitchen. At the same time, I imagine that if I had extra money, I would like to refurbish the kitchen and realise my idea. [...] The kitchen with a worktop, cupboards and electric equipment looks prestigious [...].*
>
> Made Mandika, 54 years old, 30 August 2011



B Bedroom
BT Bathroom/toilet
DR Dining room
FV Front veranda
G Garage
K Kitchen
LR Leisure room
MB Master bedroom
VR Visitor reception room
WA Washing area

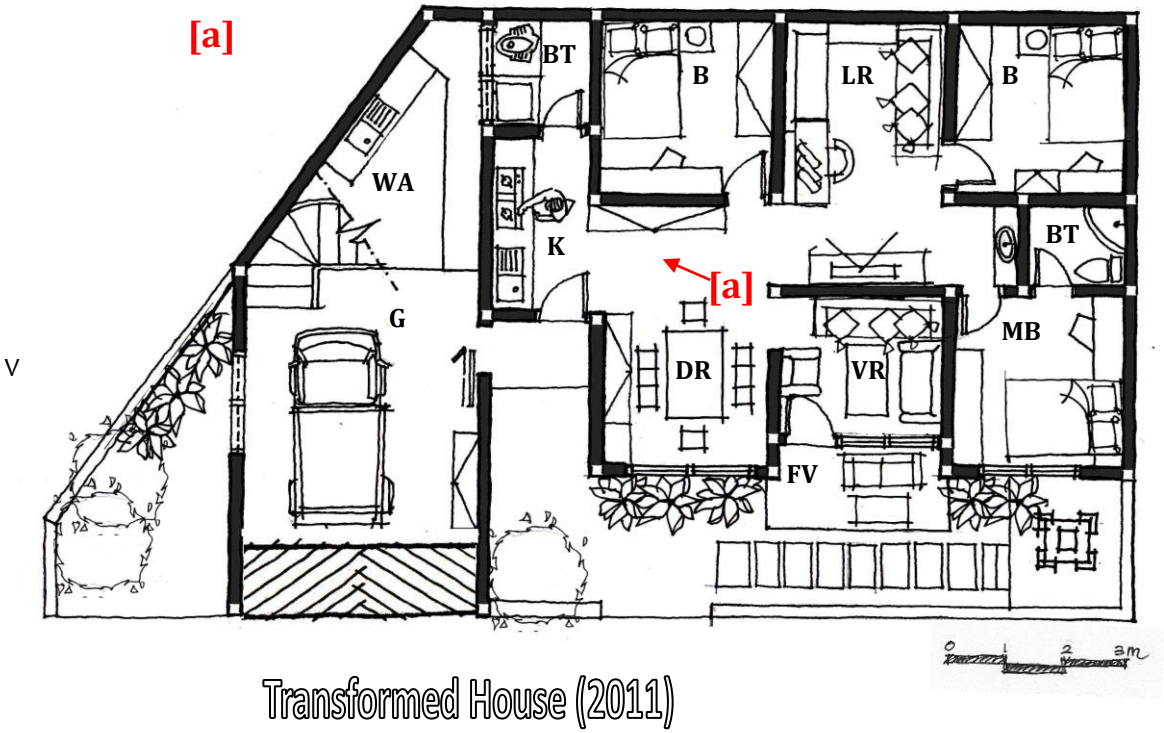


Figure 6.10 Kitchen in Made Mandika's house

The kitchen's position in this house can be accessed directly from the visitor reception room and displays how modern and prestigious this family is.

This thinking expresses and explains their kitchen style. The positioning of this space means that it can be accessed directly from the visitor reception room. It represents modernity and a part of people's dignity. The more modern their lifestyle, the more prestigious they are.

Even though the dining room has been laid down in the house design, only a few families make use of this room in accordance with its purpose. Meanwhile, providing dining table sets in the dining room has increased gradually in traditional compounds. Obviously, this furniture is not fully functional for a whole family as having a meal together around the dining table is still rare. In fact, wealthy people also make little effort to use this furniture for their family meals.

Parents are together at mealtimes, but children eat at a different time. A wife habitually accompanies her husband in eating at the dining table; alternatively, a wife is simply to sit beside her husband and chat. In addition, eating together with guests is very common and serving meals to them is considered good manners and good hospitality. It is also a cultural activity and a part of social interaction. This activity is practiced on the platform of the *lumbung* or on the veranda of an open pavilion for traditional compounds, or the dining room, leisure room, or visitor reception room in low-cost housing. In other words, the concept of *food* as a reward to entertain the guest is evident. It is also realised in the position of the dining room, which is located in the private area in low-cost housing and close to the kitchen. It is typically located behind the visitor reception room and usually in a part of the leisure room. Likewise, the dining room tends to be a part of the private area in a traditional compound.

Briefly, providing a dining room has not completely changed cultural values around cooking and eating. These values are consistently held by dwellers. This change is expressed only in the use of space and spatial organisation.

2. Sleeping Arrangements

Sleeping space is very important in house design with regard to health, privacy, safety and comfort. Sleeping space is usually located in the same space as that for studying and other activities. Referring to her research in Tanzania, Larsson (1988:45) defined a sleeping space as the total floor area of all rooms used for sleeping (in beds or on the floor). She also added that there may be a sofa, a dining table, a stove or a kitchen cabinet in the room, but as long as somebody sleeps in it, it is a room for sleeping.

More generally, ethnic groups require their housing to provide space for various activities that are typically conducted in the house. A number of rooms required for preparing food, eating, pleasure, and social interactions is relatively invariable, regardless of the number of people in the family (Larsson, 1988). The number of bedrooms needed, however, is determined by the number of family members and their sex, age, and family status in the household (Seek, 1983).

Traditionally, as with other ethnic groups, the sleeping arrangements of the Balinese family also take account of age and sex. Babies and young children sleep in the same space as their parents. After the children reach puberty, the parents prepare a separate room for their sons and daughters. This is designed to give each a greater sense of privacy and to learn how to be more independent. I Gede Ardana discusses this idea:

> *[...] My wife and our baby sleep in the same room, whereas I sleep in another room [...]. The baby still needs more attention, especially in the night. He often cries and my wife has to feed him. [...] When he reaches seven or eight years old, it is probably a good idea to give him a separate bedroom [...], to make him more independent.*
>
> I Gede Ardana, 39 years old, 26 August 2011

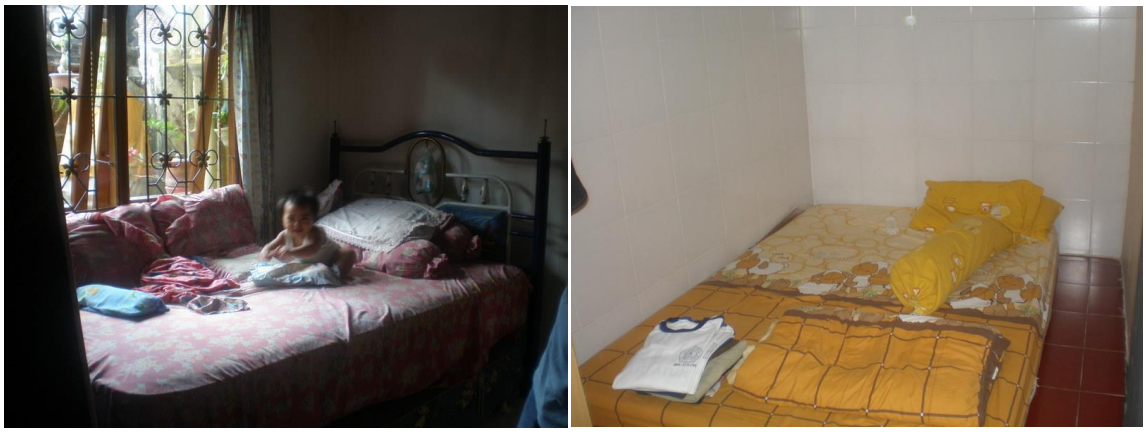


Figure 6.11 Sleeping arrangements in I Gede Ardana's family

(left) The baby sleeps in the same enclosed space as his mother.

(right) The husband sleeps in another bedroom to give his wife more opportunity to take care of their baby, particularly during the night.

In traditional compounds, *bale daja*, a pavilion for daughters is built separately and in a different part of the *kaja* (north); while their sons sleep in another pavilion. I Wayan Pantyasa describes the sleeping arrangements in his traditional house. He considered following the traditional sleeping arrangement when his children were in their teens.

> *When they reached puberty, two of my daughters slept in a pavilion in the* kaja *and accompanied their grandmother [...]. [...] My eldest son slept in the* bale *of* lumbung*. My wife and I had an enclosed space at* bale dangin*, another pavilion in the* kangin (east)*. [...] Today they are all married. My daughters have moved into their husbands' houses. It is only my son and his family who live here and occupy another pavilion in* kaja *[...].*
>
> I Wayan Pantyasa, 39 years old, 2 September 2011

In the existing design of low-cost housing, only two bedrooms are provided: one master bedroom for parents and one bedroom for their children. Until the occupants have a baby, the bedroom serves guests or overnight visitors. It appears that a few dwellers use this room for a house worker or for storage. Nevertheless, the dwellers commonly extend the house since they tend to have more than one child. Each child needs a specific space for private activities, such as sleeping, studying, and storing their own personal paraphernalia. The number of bedrooms needed for children is determined by sex; in other words, daughters and sons have separate bedrooms. This was illustrated in the interview with I Nengah Tangkas Swacita:

> *[…] When my eldest daughter was a baby, we had no inclination to extend the house. One bedroom was still enough for my family [...]. We used another bedroom for storing goods [...]. However, several years later, I had more children, one son and another daughter [...]. [...] They were teenagers and needed separate bedrooms, so I changed the layout of the house and added one bedroom behind the carport for my son [...], whereas my daughters sleep in the same enclosed space. Each needs a private space for private activities [...].*
>
> I Nengah Tangkas Swacita, 46 years old, 23 August 2011

Furthermore, the dwellers interviewed revealed that all members sleep inside the house. Exceptionally in summer periods, a number of people in traditional compounds, mainly men, sleep outside to enjoy the fresh air or the breeze. They can use some spaces that are possibly available for sleeping, such as the front veranda, a platform under the *lumbung*, or an open pavilion for sleeping. I Made Nichi describes the reasons why he prefers to sleep outside during summer:

> *During the summer period, in July and August, the temperature is higher than other months. It is around 31-33°C. [...] I am not able to sleep well and sweat a lot during the night [...]. Sleeping outside is a better choice for me, so I can enjoy the fresh air [...].*
>
> I Made Nichi, 59 years old, 26 August 2011

The Balinese traditionally believe that the meaning of sleeping is not simply to take a rest to recover the body; it is also perceived as a short-term experience of death. It is considered a part of the effort to purify the human spirit and bring it closer to the creation of God. The father and family elders have a responsibility to ask for a blessing for both protection and family happiness from God. It is said that people who follow this belief consistently will achieve better sleep. *Nitisastra* (in Ramseyer, 1977), the old manuscript, explains in detail the rules of this activity, such as suggested sleeping positions, types of bed, and which pavilion is allowed to be designated a bedroom. Commonly, this society still believes in this meaning and respects these rules. Among these rules, those regarding sleeping positions are mostly obeyed.

Figure 6.12 Two children's bedrooms in I Nengah Tangkas Swacita's house

(above) Bedroom for daughters (left) and son (right)
(below) Apart of sleeping, bedroom is also used for studying and keeping their own private goods.

Within the process of socio-cultural change, the belief system around sleeping activity tends to change gradually, from the older to the younger generation. The meaning of sleeping has shifted from being a ritual activity to being a pleasure and having a healthy purpose. Sleep is needed to help the body to recover after working hard for the day. The Balinese have slowly abandoned limitations to good sleep. For this reason, they purchase comfortable beds and accessories in order to achieve good sleep. A factory-built bed is considered preferable to a traditional wooden bed. Furthermore, additional bedrooms in low-cost housing have raised a new issue. In extended houses with three bedrooms or more, all are located together. Negative comments regarding these houses often focus on the bedrooms and their proximity to one another, and the resulting lack of privacy. In addition, the master bedroom for parents is not large enough to allow the younger children to sleep with them.

The change from collective sleeping to individual sleeping is a gradual process. An interesting phenomenon can be found in the many compounds with multiple rooms that are occupied by extended family. It is only couples and girls who sleep in their own bedrooms; boys sleep collectively in the *bale* of *lumbung* or open pavilion. Prior to sleep, it is pleasurable for boys to gather, chat, and tell stories. Then, they fall asleep naturally. Sleeping collectively supports Rapoport's (1995) view that privacy is related to density and crowding, which is culturally variable. Nevertheless, due to the undesirable weather and high pollution in Denpasar today, as well as the need for a sense of privacy, boys have changed their sleeping behaviour from an outdoor collective activity to individual indoor sleeping. Indeed, sleeping arrangements and spatial organisation are also affected.

Another issue connected to sleep is that many Balinese still consider the importance of sleeping position. They respect the highest spatial hierarchy: *kangin* (east) and *kaja* (north). As a result, they place their heads in either of those directions while sleeping. This belief is a main consideration when placing beds in bedrooms and will be discussed in Section 6.2.1.

Ultimately, the activity of sleeping, although common to all people, differs markedly in its spatial and temporal manifestations due to cultural patterns. Temporally, these patterns are behavioural and routine, and govern who sleeps where and with whom (Lawrence, 1982). Finally, patterns of sleeping experiences and behaviour orient us in space, time, and in the socio-cultural context (Dovey, 1985:38).

3. Social Interactions and Leisure

Social interaction and leisure require consideration in housing. The Balinese have the opinion that upholding social communication and social networking with family members and neighbours is important in their lives. Dwellers engage in activities around family gatherings and entertaining visitors. They hold a family gathering at a specific time and invite the whole of their extended family, whereas entertaining visitors is done incidentally.

In low-cost housing, the original design provided a specific room for guests or visitors, with a set of sofas, two or more armchairs and a small table. They called this *ruang tamu*. Most families combine this room with leisure activities such as sitting, talking, and watching the television or DVDs. A few families also use this room for eating meals. Numerous families have no partition to separate the *ruang tamu* and *ruang keluarga* (leisure room) or *ruang makan*

(dining room). Therefore, they will probably achieve a sense of spaciousness, although this layout diminishes the sense of privacy because visitors will know how this family engages in some of their activities. Nevertheless, the family have no objection to this arrangement. I Nengah Tangkas Swacita describes this phenomenon as follows:

> *In my view, having many massive partitions could make dwellers feel more claustrophobic [...]. [...] To obtain a sense of spaciousness, I took the partition out, so* ruang tamu *was more capacious and it could accommodate three activities: entertaining visitors, chilling out, and having meals. [...] No spaces for such activities are partitioned, [...]. Perhaps, it looks as if there is no privacy, but we get a large room instead [...]. [...] Sometimes I use the front veranda as well, chatting with my family or the neighbours [...].*
>
> I Nengah Tangkas Swacita, 46 years old, 23 August 2011

Figure 6.13 I Nengah Tangkas Swacita's house

The space has no large partitions and therefore functions as a space for social interaction and leisure.

(above) Activities in *ruang keluarga* such as chatting with family members and watching the television (left). *Ruang tamu* functions to entertain the visitor, both formal and informal (right).

(below) *Ruang makan* is a place for the family to have a meal together (left). The front veranda is also used as a space for leisure and social interaction both within the family and with neighbours (right).

Interviews disclose that most dwellers in traditional dwellings use one of the pavilions, either the open pavilion or granary, to accommodate social interaction for both members of the family and guests. Since the *bale dangin* is an open pavilion, this building offers a friendly space for these activities. Similarly, *lumbung* also has a *bale-bale* and is comfortable for sitting and chatting. Dwellers no longer use this building to store agricultural products, like paddy, nuts and coconuts, but utilise it for social interaction and leisure. Ketut Gede Pariasa and I Made Nichi reveal these opinions:

> *[...] We use* bale delod *for having visitors [...] since this building is semi-enclosed. [...] Visitors and I can chat and sit on the floor with our legs crossed while enjoying a cup of coffee and smoking cigarettes [...], to relax completely.*
>
> Ketut Gede Pariasa, 55 years old, 4 September 2011

> *I have no specific space to have visitors in my house [...]. Since my grandfather passed away, my family has not been using the* lumbung *to store paddy. [...] However, it is important to maintain its existence [...], change its function [...]. Having a chat with guests in the* lumbung *seems hospitable and friendly [...].*
>
> I Made Nichi, 59 years old, 26 August 2011

Children who live in traditional houses play anywhere - around the house, in the *natah* (inner house yard) or in the *teba* (rear garden), because there is plenty of open space available for them. However, for mini-football, kites and play battles, they use the alleys, sides of the road or street, the *bale banjar* (community hall) or field around the neighbours. They play outside of school time. After getting home from school, they have fun with other kids from the neighbouring house and share the day with their parents in the evening. The same pattern can be found in low-cost housing. Owing to the limited space for social interaction, children have no choice other than to divide their time. Alleys, fields, communal spaces, and the sides of the road are used for their play. However, some parents do not allow children to play outside due to safety and security concerns. They have social interaction inside with family members and play some indoor games on the internet, computers, play-station, and CD or DVD games.

Figure 6.14 The *Bale delod* and *lumbung*

Both compounds are also used by most dwellers in traditional dwellings as a space for social interaction and leisure

(left) The *bale delod* in Putu Gede Kertha's house is multi-functional, being used by the dwellers for both ritual and daily activities.

(right) The *lumbung* in Made Nichi's house is simply used as a social interaction and leisure space.

The movement of the sun is still significant in the pattern of weekday life in urban housing, mainly for housewives and children. Social interaction and leisure for family members can be done in the evening, after the husband's return home from work. Such activities can be carried out in the leisure room, living room, or front veranda in low-cost housing, whereas the occupants of traditional dwellings prefer to use the *lumbung* or *bale delod* for such activities. Chatting, playing cards, and watching the television are the activities most frequently carried out in the evening.

The change in behavioural settings due to modern lifestyles can be found in traditional compounds. Some dwellers have changed their settings to provide a specific space for guests. They make the space available by enclosing the front veranda of one pavilion or by using the extended pavilion. Therefore, when guests come, the dweller directly leads them to this space, which aims to give more of a sense of privacy for the guests while visiting the dwellers. I Made Nichi, a voluntary *kelihan banjar,* or a leader of the lowest local authority, discusses this in the following interview:

> *Being a* kelihan banjar, *I occasionally need to spend my time in the house to deal with neighbourhood problems. I have frequent visitors [...]. They come along to my house and discuss all issues around the community, and even personal problems [...]. I requested a specific room to keep an open house and to get a sense of privacy for my duties [...]. The front veranda in* bale daja *was the choice [...].*
>
> I Nyoman Nichi, 61 years old, 26 August 2011

Figure 6.15 I Nyoman Susila's traditional house

The need for a sense of privacy to entertain the guests has motivated the dwellers in this traditional house to make available a specific space which they call the *ruang tamu*

(left) This space is formed by using a wooden-partition to separate the front veranda of the *bale daja* from the *natah*. The screen encloses the veranda to obtain more privacy.
(right) *Ruang tamu* in I Nyoman Susila' house. His duty as a *kelihan banjar* requires this space.

Ultimately, the informal social interactions among family members and others in the neighbourhood persist unchanged. However, the spaces for performing those activities are contextually variable. Both formal and informal social interactions in traditional dwellings have shifted to provide more privacy for entertaining guests and for the daily activities of family members. Meanwhile in low-cost housing, owing to the original design, which inseparably linked the living room and dining/leisure room, social interactions merge into the

private activities of the dwellers. The dining room becomes more open and welcomes visitors at any time; however, this has diminished the sense of privacy in that room. Nevertheless, entertaining visitors in the separated space shows that the formality of guest meetings coincides with the more individualistic social relations within the urban community.

6.2 Processes of Habitation: How do They Order the House?

The previous discussion reveals that activity systems take place in systems of settings; thus, these are inevitably organized in space and time. In this context, it is necessary to consider activity systems, rather than to look only at single activities. People cannot simply designate a particular space in the house for one purpose because they do not act exclusively in a single space. They live in various spaces of the house as a system of settings. In other words, they inhabit cultural landscapes. As Geertz (1975) argued, both metaphysical systems and commonplace daily life play a role in creating and sustaining a cultural order of meaning and activity. Thus, one rich and dominant locus of the day-to-day is the domestic space or house. The following will discuss this by exploring how a socio-cultural order, in this case metaphysical systems and commonplace daily life, plays an important role in changing domestic spaces. Indeed, it is hoped that such explorations will contribute to an understanding of the use of domestic spaces and how the changes therein interact to create and sustain the cultural order of the dweller.

6.2.1 Hierarchy of Space and Orientation: the Importance of Cardinal Directions

Tuan (1977:87-88) mentioned that the functional component of a worldview or cosmology is one of two principal kinds of mythical space. He defined worldview as a person's more or less systematic attempt to make sense of their environment. In order to be functional, nature and society must be ordered and display a harmonious relationship. Tuan believes that all people require a sense of order and fitness in their environment.

Section 4.4.1 explains that the cosmological beliefs fundamentally support the principal of order underlying Balinese dwellings. According to the Balinese religious experience, space is perceived with a unique ontological status as a sacred space (Parimin, 1986:16). The spatial layout of each house yard is traditionally ordered into the sacred *(Utama),* the middle *(Madya),* and the profane domains *(Nista).* The space has various values and various directions of sacredness. The spatial hierarchy in the house yard is very important for the Balinese. From the case studies in this research, substantial phenomena that relate to this theme are revealed:

1. The Meaning of *Nista*

The dwellers in traditional houses attempt to preserve the cultural attachments of the house. Even though they extend and add some pavilions with new functions, the sacredness of the space is the most important consideration in house extensions. It is not simply for cultural investment purposes, but also to show respect to the ancestors. Therefore, this is an active

approach to obtaining the fortunes of living, good health, and prosperity from the ancestors. I Gusti Ngurah Oka Putra describes this in the following interview (which is also shown in Figure 6.16):

> *All this time, I put so much effort into maintaining the existence of the* Utama*. In my big family's views, the* Utama *or* sanggah, *as the most sacred domain in the house, is a space we have to respect [...]. [...] As the head of the household, I have a responsibility to ask for the ancestors' blessing and family protection [...], [...] lift up a prayer for health, prosperity, and happiness [...].*
>
> I Gusti Ngurah Oka Putra, 68 years old, 28 July 2011

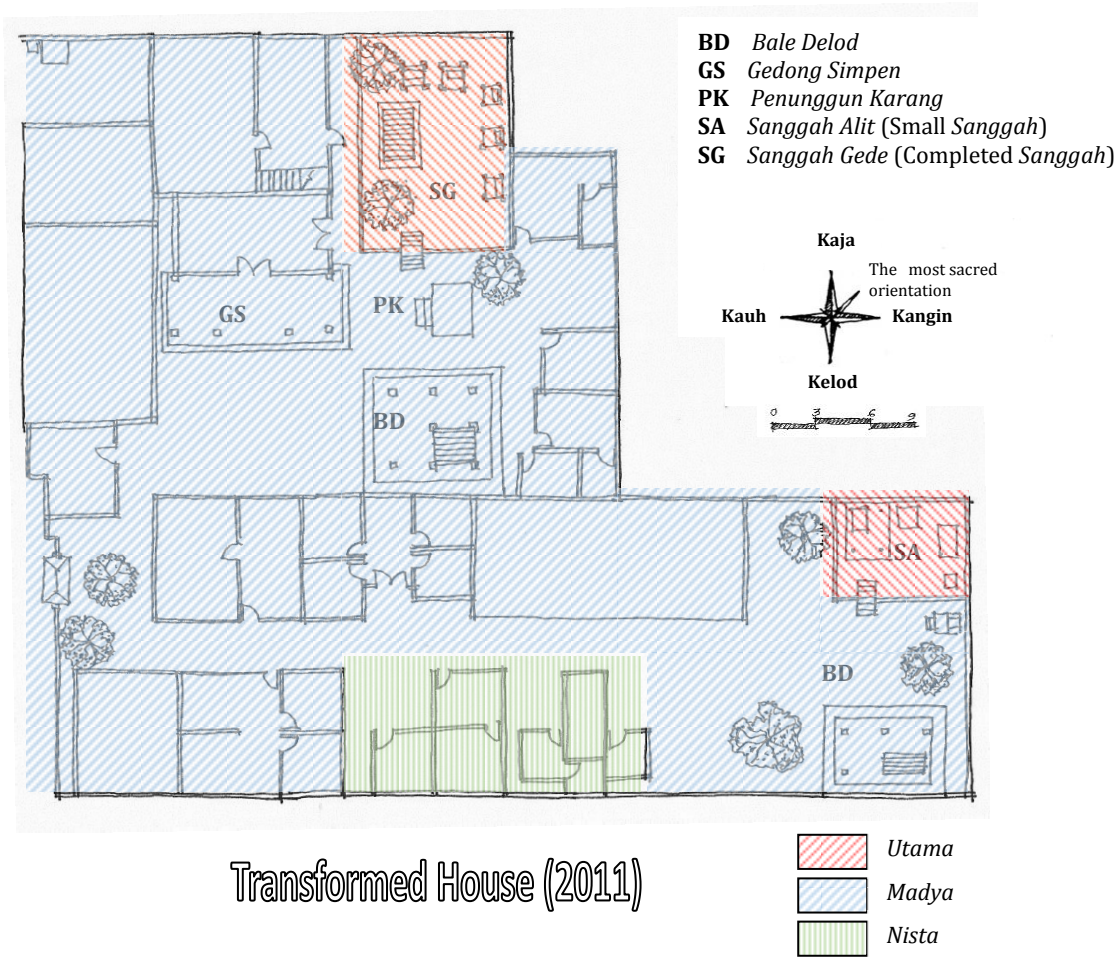


Figure 6.16 I Gusti Ngurah Oka Putra' s traditional house

I Gusti Ngurah Oka Putra put much effort into maintaining the existence of the *sanggah*, *gedong simpen*, *bale delod*, and *penunggun karang* as sacred spaces in the house.

Most dwellers try to maintain this spatial layout with its hierarchy and sacred orientation. Nonetheless, some are not able to avoid transforming this layout. One phenomenon is changing the meaning of *Nista*. From the cases studied, it can be noted that a change in the meaning of *Nista* can be clearly seen in the house of I Nyoman Susila (see Figure 6.17). The meaning of *Nista* as the most profane and dirty place has shifted and increased to be *Madya* due to housing needs. This means the hierarchically lowest space in the Balinese house is able to be given a higher level. The paradigm of lifestyle, from rural to modern society, has removed the *kandang*

(stall) and *teba* (rear garden) from the house yard. This area is re-organised for optimum function and value; indeed, in some cases, this zone even has commercial purposes. Increased house values in an urban area result from the efforts of dwellers to maximise the available space and incorporate additional functions.

> *My youngest son needed a house to start his life [...]. I decided to bequeath him the* teba, *one part of the back yard. In 2008, after getting married, he built the house immediately for his new family. At that moment, the* teba *seemed an unused area and looked like it had no function at all [...]. I covered it with some plants, like bananas, mangoes, guavas, and cassavas. However, the crop was only for the family [...]. It was like a family garden [...], but now, my eldest son uses this area for building a house [...].*
>
> I Nyoman Susila, 61 years old, 26 August 2011

Even though dwellers in low-cost housing have limited space, they respect this concept. Unlike in traditional compounds, in which the spatial concept is well-organised, in low-cost housing, the dwellers have to adjust the position of each area within the spatial organization of the house. This is revealed in the following interview, and in Figure 6.18:

> *The spatial needs motivated me to rearrange and extend the house layout in 2003. I added one big bathroom, next to the master bedroom. This layout created a* Nista *within two separate areas […].*
>
> I Made Gede Sudiartha, 57 years old, 16 July 2011

Nevertheless, by way of deference to the existence of a sanctified space where the Creator and the ancestors are placed, the Balinese currently continue to comply with making the different levels to distinguish sacred from profane domains. Inside a house yard in traditional dwellings and low-cost housing, the sacred domain naturally has a higher elevation than the profane. Its purpose is to honour the spirits of the Creator and the ancestors in that space.

2. Determining the Sacred Orientation of the House

Another issue is the cardinal orientation, which is essential for the Balinese to lead observe sacredness (Parimin, 1986). Dwellers can follow either a local or regional directive; they usually obey the local one, which determines the position of the *kaja-kangin,* village streets, the nearest mountain or highlands, or crossroads. However, in low-cost housing, ordering the spatial layout so that it accords with traditional values is occasionally difficult to realize. This is because the original design by the developers is typically based around units. Developers often built mass housing without consideration of the sensibilities of the local cultural values. Dwellers subsequently encountered some obstacles with respect to their cultural values. In specific cases, in order to determine *Utama* when extending the house, dwellers prefer to orient the house following the direction of the street. This is shown in the next interview, and also in Figure 6.19:

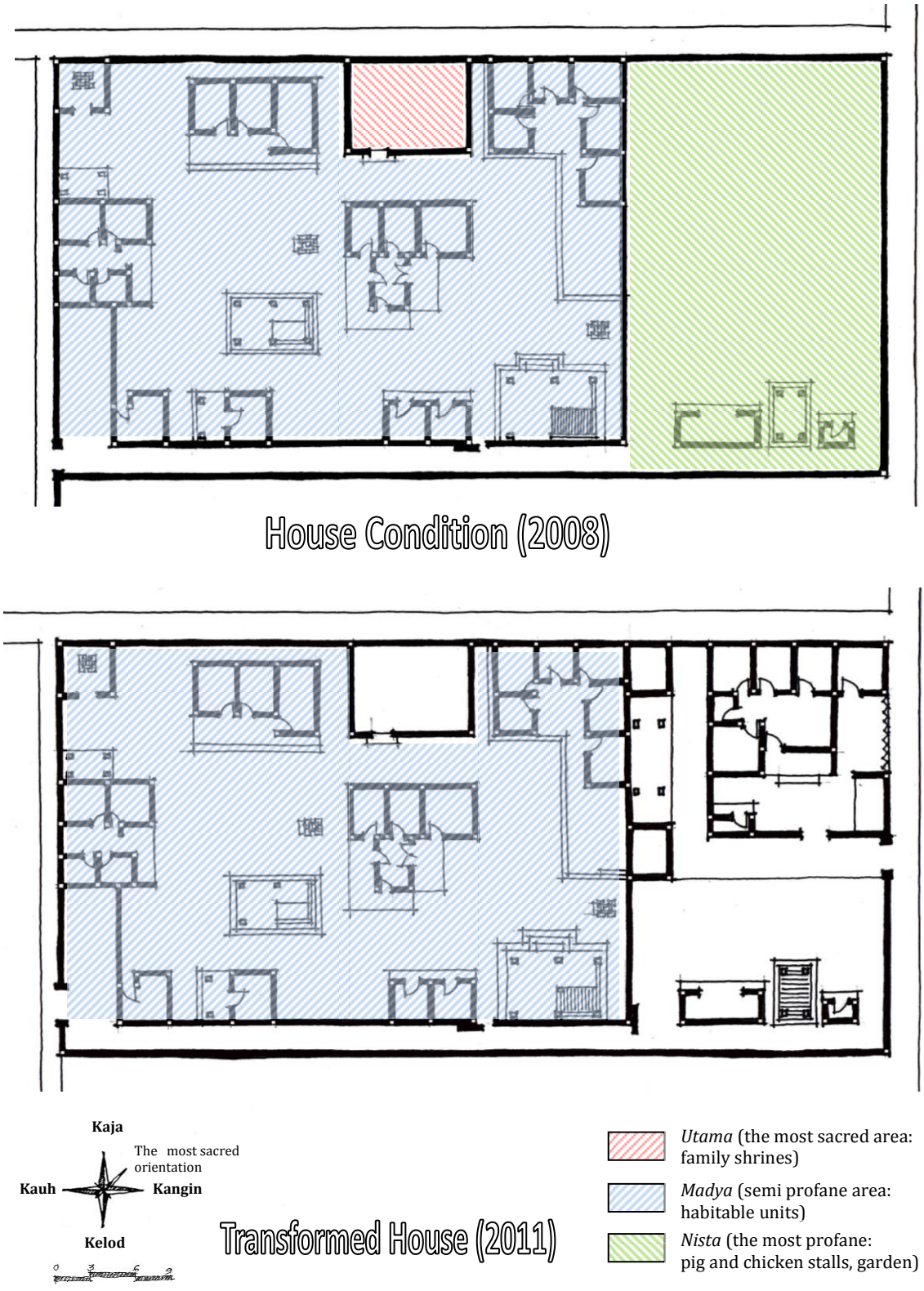
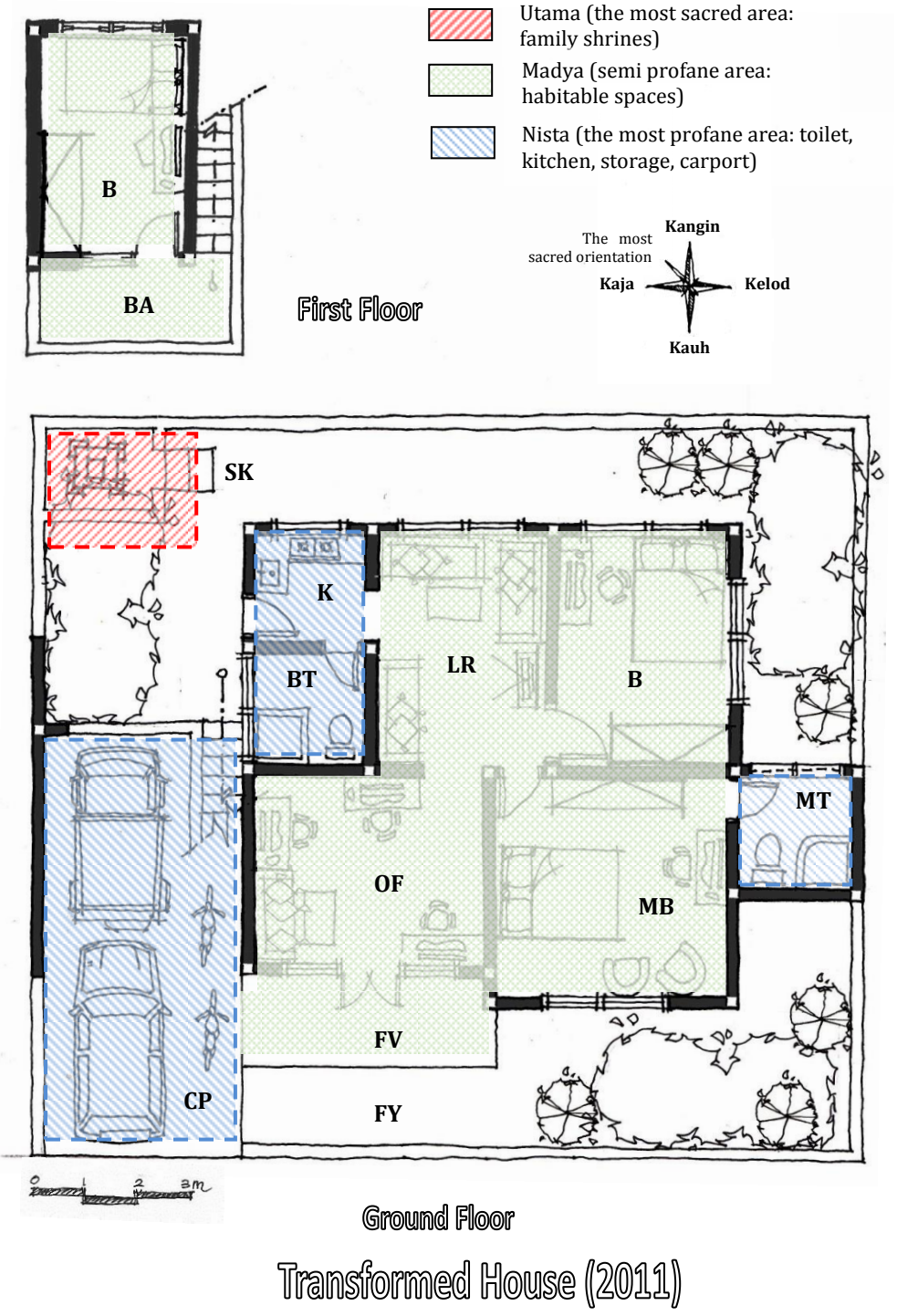


Figure 6.17 I Nyoman Susila's traditional house

Extension in I Nyoman Susila' house has shifted the *Nista* (family garden, pig and chicken stalls) as the most profane in the house yard to *Madya* for habitable units.



B Bedroom
BA Balcony
BT Bathroom and toilet
CP Carport
FV Front veranda
FY Front yard
K Kitchen
LR Leisure room
MB Master bedroom
MT Master bathroom
OF Office (architect consultant)
SK Shrine *(Penunggun karang)*

Figure 6.18 I Made Gede Sudiartha's house.

The dwellers respect the spatial concept that deals with local values. Their house is divided into three areas from sacred to profane: *Utama*, *Madya*, and *Nista*. However, they compromise and adjust the position of each area within the spatial organization of the house.

[...] I decided to extend the house in 2002. We needed more space for bedrooms and generating family income [...]. However, I had a problem with where to put the shrines because the house yard is not arranged according to local values [...]. The shrine was supposed to be in the corner of the kaja-kangin*, but it was behind the house [...]. [...] I wanted to change the shrine position, and discussed this with the priest. He suggested following the street or building orientation [...], with the shrine placed in front of the house [...].*

I Wayan Sugiatma, 61 years old, 29 July 2011

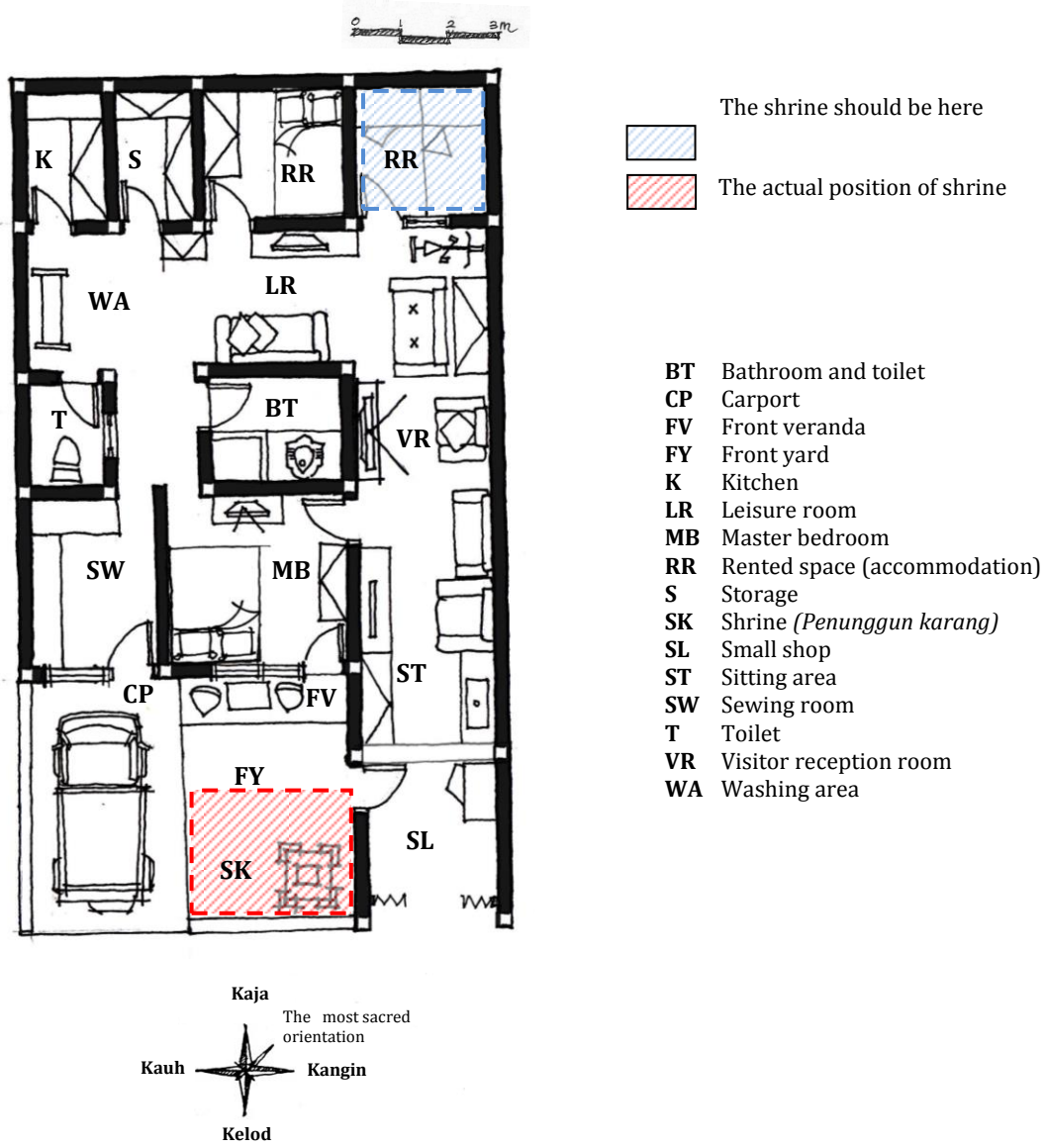


Figure 6.19 I Wayan Sugiatma's house

In accordance with local values, the shrine position should be in the corner of *Kaja-Kangin* or behind the house. However, I Wayan Sugiatma placed this shrine so as to follow the building orientation

3. Sleeping Position of the Occupants

Section 6.1.2 describes that the sacredness direction also affects the sleeping position of residents. While sleeping, they position their head towards either the *kaja* (north) or the *kangin* (east) in order to respect the sacred direction, while their feet point towards the profane domain. It is forbidden to orient the body in the opposite way (Ramseyer, 1977; Belo, 1974). Nevertheless, nowadays, in line with the unavoidable influence of modernization, the paradigm of the sacred direction to determine the sleeping position in the house has shifted to be pragmatic. The Balinese, who are accustomed to living with other cultures, are found to be flexible in following the sleeping directions. I Kadek Dwi Yudha and family, who lived in Surabaya, confirm this phenomenon (see also Figure 6.20):

> *It might be because I have been outside Bali for a long time that the sacredness directions are not the only consideration for placing beds [...]. Importantly, I could get a sense of roominess and cosiness in the bedrooms, although this does not align with the cardinal directions [...].*
>
> I Kadek Dwi Yudha, 44 years old, 9 September 2011

4. The Higher Elevation for the Sacred Domain

By way of deference to the existence of a sanctified space where the Creator and the ancestors are placed, the Balinese currently continue to comply with building different levels to distinguish sacred from profane domains. Inside a house yard in traditional compounds and low-cost housing, the sacred domain naturally has the higher elevation than the profane. This aims to honour the spirits of the Creator and the ancestors in that space.

Figure 6.21 Sacred domain naturally has the higher elevation than the profane one
(left) *Sanggah* or house temple in a traditional dwelling (Ketut Sudana's house)
(right) Sacred space in low cost housing (I Ketut Adianta's house)

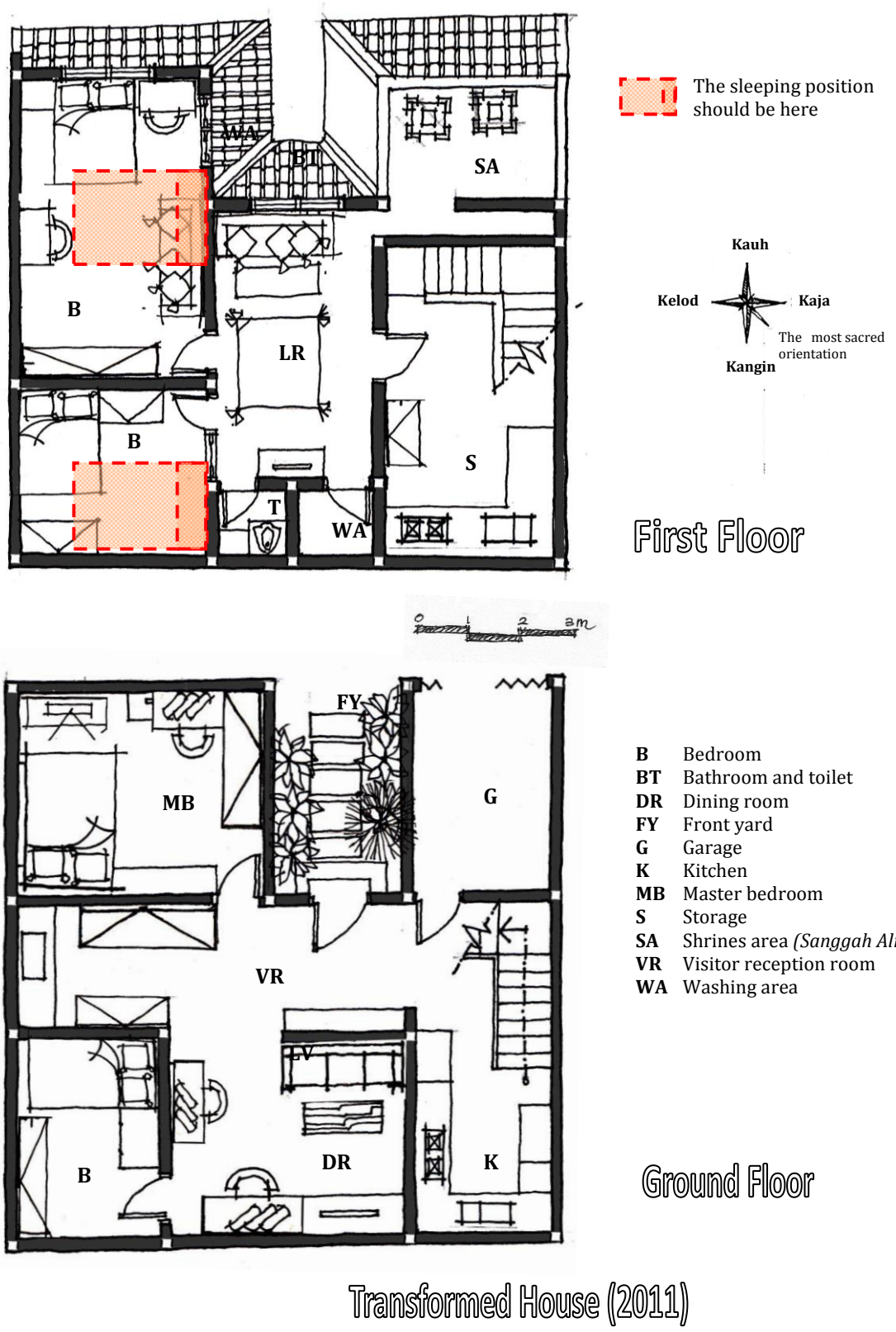


Figure 6.20 I Kadek Dwi Yudha's house

Some dwellers are more pragmatic and flexible in following the sleeping position. I Kadek Dwi Yudha ignores the *kaja-kangin* direction to place the head and feet while sleeping.

5. Building Appearance

Samadhi (2004) describes that the concept of sacredness is also implemented into buildings: *Utama Angga* (roof), *Madhyana Angga* (rooms, walls), and *Kanista Angga* (floor, sub-structure). The Balinese believe that a building is a reflection of the human body in which the roof is perceived as at the top of the hierarchy, rooms and walls as the human body, and the floor and sub-structure are assumed to be a pair of legs or the most profane. From the field data, it is clear that the house or compound obviously adheres to this concept. Even though some occupants in low cost housing have modified the house elevation to be of a modern style, it can be conceptually interpreted in a particular way in terms of the sacredness concept: see Figure 6.22.

> *I do respect the local wisdom [...]; philosophically, the values have a deep meaning and come from the sacred manuscripts [...]. That is why, when I remodelled the house, I put a lot of effort into implementing the rules of traditional Balinese architecture within a new design [...]. For instance, the building elevation. I decided to implement the concept of* Utama-Madya-Nista *[...]. Therefore, the house can express the spiritual dimension of itself and give the fortune and harmony for family life.*
>
> I Made Sandy Aryawan, 53 years old, 29 August 2011

Figure 6.22 I Made Sandy Aryawan's house (clockwise from the left)

Even though he redesigned the new house with modern construction methods, the elevation is full of Balinese ornaments and local materials. He also consistently upholds the concept of sacredness in the building's appearance: from the most sacred (roof) to the most profane (semi basement floor).

(1) The walls of the house represent the human body (the semi profane)
(2) The Roof, as the head of the house's construction, has the highest hierarchy of sacredness
(3) The semi basement floor is perceived as the legs of the building (the most profane)

In brief, two pairs of cardinal directions: *kaja-kangin* and *kaja-kelod*, play an important role in the spatial arrangement of Balinese dwellings. The cosmological beliefs and religious experience essentially support the principal of spatial order to make sense of their houses within the most sacred world *(utama)* or family shrines, the middle *(madya)* or habitable units, and the most profane *(nista)* or service area (toilet, rear garden and stalls). These cardinal directions also determine the house's orientation, sleeping position, and the allocation of the higher levels to the family shrines as the most sacred space in the plot and building appearance. The dwellers in traditional houses still consider preserving the cultural attachments of the house, even in the building extensions. Meanwhile, the occupants in low-cost housing have had to make some modifications to respect the local cultural values because of some obstacles in the original design. Even though they have limited space, up to this time the sacred directions are the most important consideration in spatial arrangement and building appearance.

6.2.2 Sacred and Profane Spaces: Expression of the Navel of the Universe

Many researchers have focused on particular spatial expressions of socio-cultural concepts that primarily shape the house form. They argue that the contrast in the built form is due to differences in worldview expression. It is regarded as important in social organizations, religion, and rituals (Rapoport, 1982; Rapoport, 1977; Douglas, 1972). From his research in Tswana house, Eliade (1959) notes that one aspect of the built form is in the setting up of the concept of the cosmos on earth. Space is not homogeneous. Religious people constitute the navel of the universe and the house becomes a symbol of the universe. Subsequently,, Cooper (1976) also highlighted that many people in many parts of the world have built their cities, temples, and houses as images of the universe. In other words, traditional people see their dwelling as symbolic of the universe with themselves, like God, at its centre.

Balinese houses reflect these viewpoints. The spatial concepts of these houses obviously reflect a cosmological perspective, particularly in relation to the belief in the influence of the ancestors on modern dwellers. Besides God, the ancestors play an important role in Balinese life. It is believed that the ancestors take an active interest in the fortunes of the living, rewarding with good health and prosperity those who can treat them with respect and conformity. However, the ancestors are also able to punish with sickness, economic loss, or some other misfortune those who neglect them or who offend the social values of which the ancestors are custodians. The emphasis is on maintaining *order* - both for the living and the dead - surrounded by the community and the physical expression of these values in the house. This is reflected in the field data, which highlight some relevant and significant issues:

1. The Importance of the Sacred Spheres

In terms of sacredness, the dwelling can be ordered according to the most sacred and most profane in the plot. The most sacred space is the *sanggah,* which is positioned in the *Utama*. This can be followed by the *bale daja* (the north pavilion), other *bale (pavilions)*, the *paon* (kitchen), *lumbung* (granary), *kandang* (stall), and *teba* (the rear garden). The *kandang* and

teba are assumed to be the most profane, dirty places, and are included in the *Nista*. Meanwhile, other parts of the dwelling are grouped in the *Madya*. Even though the occupants extend and add some pavilions with new functions, the sacredness of the space is the most important consideration in the extended house. This is not simply for the purposes of cultural investment, but also to show respect to the ancestors. Therefore, this is an active approach to obtaining good fortune, good health and prosperity from ancestors. One dweller supports this view in the following interview:

> *All this time, I put much effort into maintaining the existence of the* Utama*. The sacred spaces, mainly the* sanggah*, are spaces that we should respect. We have two types of sanggah:* Sanggah Gede (the completed family shrines) *and* Sanggah Alit (the little family shrines). *Besides the* sanggah*, we also uphold the* bale daja *or* gedong simpen (the north pavilion for the storage of valuable family goods), bale dangin (the east pavilion for preparing ritual processions), and the penunggun karang (a shrine for Security God). *In 1994, my brother built his own house and needed a* sanggah alit *and* bale dangin *in part of his own yard. [...] As the head of the household, I have a responsibility to ask for a blessing and family protection from the ancestors [...]. For us, these sacred spaces are like the spirit of our daily life in the house [...].*
>
> I Gusti Ngurah Oka Putra, 68 years old, 28 July 2011

In the above cases, the *sanggah*, *gedong simpen*, *bale adat*, and *penunggun karang* are sacred. The *Sanggah* is the most sacred and is placed in the *Utama*. Meanwhile, the *gedong simpen* and *bale dangin* are closely linked to the ancestors. The *Penunggun karang* is one shrine from which the Security God could spiritually protect the house. Three of them are built in the *Madya*. From a spiritual perspective, the meaning of those buildings plays an important role in the real lives of dwellers. I Nyoman Susila explains this in part of the interview below:

> *[...] Even though I transformed the house and added some pavilions in the yard, this action was only taken in the Madya and Nista zones [...]. I did not expect to change the Utama zones and other shrines that have spiritual dimensions for my family [...]. [...] In common Balinese spirituality, it is high risk and can incur a misfortune in the next generation [...]. I have no opinions on this way of thinking [...].*
>
> I Nyoman Susila, 61 years old, 26 August 2011

2. The Sacredness of *Bale Daja*

The *kaja* is defined hierarchically as the highest space with regards to the imaginary sacred line from the sea to the mountain. The *bale daja,* which is a sacred space in terms of its original function as storage for valuable family belongings (or *gedong simpen*), is positioned in the north part of the *Madya*. This *bale* traditionally functions as a sleeping area for daughters or as an area for giving birth and is known as *bale meten* (Saraswati, 2008:35-36). Nevertheless, data from fieldwork show that the sacredness of this *bale* has diminished to be more profane as a space for daily activities, such as entertaining visitors, leisure and social interactions, family gathering, or working space (see Figure 6.23). The *Bale daja* can even function as a neighbourhood meeting room if the owner is a *kelihan banjar,* or the leader of *banjar* as the lowest local authority. A few dwellers also add this *bale* for economic value as rented rooms. Made Riady presents the reason he transformed the *bale daja's* original function for economic gain:

My house is located on Jalan Raya Sesetan (the main road)*, one of the strategic areas in Denpasar. This means my house has an additional economic value for generating family income [...]. Commercial facilities were built along this road and motivated many people to come to find jobs, not only from around this city, but also from other parts of Bali and other islands [...]. [...] renting rooms to migrants is a good choice for my business [...]. I extended and separated the* bale daja *with three private bedrooms; then I rented those out on a monthly basis to local immigrants [...]. In the past, my daughters used this pavilion for sleeping, but now they live with their husbands [...].*

Made Riady, 67 years old, 24 August 2011

Figure 6.23 The sacredness of the *bale daja* in the *Madya* has transformed to be more profane

(above) The *bale daja* in I Nyoman Susila's house is used to store valuable family belongings, so the sacredness of this pavilion is traditionally continued by the dweller; thus, it is more sacred than other pavilions (left). The new function of the *bale daja* in Ketut Sudana' house is as a sleeping area and guest room (right).

(below) To generate the family income, Made Riady transformed the *bale daja* into rented rooms for local immigrants (left). Since I Made Nichi holds the local authority of *banjar*, this pavilion accommodates neighbourhood meetings (right).

3. The Meaning of *Natah Umah*

According to the cosmological perspective of the Balinese, *natah* is philosophically believed to be a centre of balance in the cosmos, or an imaginary space that joins two worlds in harmony: The *Swah Loka* (the upper or the sacred world) and the *Bhur Loka* (the lower world). This imaginary space creates a place for natural life, in this case a family (Putra, 2003:54). There are three types of natah: *natah sanggah* in family shrines, *natah umah* in the inner house yard, and

natah paon in front of the kitchen. Due to the limited space, *natah umah* and *natah paon* commonly encounter many obstacles in terms of implementation, so the occupants often consider covering these areas with new pavilions; in contrast, *natah sanggah* can still be maintained, even in a limited area, because the occupants respect the concept of sacred space (Dewi, 2007:126).

Natah umah is an important element in spatial order and is implemented as a centre of orientation in the compounds. From this house yard, the names of the zones in the house and the names of the pavilions are given with regard to the cardinal directions. In the diagram of *Sanga Mandala* (see Figure 4.6), this area is positioned in the *madyaning madya*. Data from fieldwork show that the existence of this *natah* is maintained by the occupants in traditional dwellings. Despite the addition of new compounds, the *natah umah* still exists in a narrow space and accommodates new functions: see Figure 6.24.

Figure 6.24 *Natah* in traditional dwellings (clockwise from top left)

(1) I Nyoman Susila upholds the nature of *natah*, in both size and function.
(2) The small *natah* was found in traditional houses with limited space.
(3) Adding a new compound for rented rooms in *natah* results in this area becoming more constricted.
(4) Not only an empty space, but the *natah* also has a new function, such as an open garage for motorbikes. The occupant added an extra roof to protect motorbikes from rain and sunshine.

Two occupants reveal their reason why they keep the nature of *natah* in the house:

> *[...] to generate family income, I desired a new compound for renting rooms [...], but the remaining empty plot was only the* natah*, so I built this compound in that area [...]. [...] we still have this area, but it is smaller [...].*
>
> I Wayan Pantyasa, 39 years old, 2 September 2011

> *As the centre of house life, a* natah *is a very important element for my family [...]. For this reason, we kept the nature of this area and did not change the size and original function [...] an empty space that functions as an open area with covered concrete block and plants surrounding it [...]. Nevertheless, in occasional ceremonies, the* natah *enables us to set up a big tent to entertain a thousand attendees [...].*
>
> I Nyoman Susila, 61 years old, 26 August 2011

In contrast to the traditional house, the limited space in low-cost housing means it is not possible to provide a *natah*. Nevertheless, interviews revealed that many occupants use the leisure room in addition to the *natah umah* and *natah paon*. It is due to the position of this room in the centre of the house. In other words, the dining and leisure rooms are philosophically meant as a midpoint of domestic activities and connect the spaces that surround these rooms. Both rooms accommodate social interactions within family members, such as having a meal, chatting, watching television and other activities, and symbolise a harmonious life. Ketut Sunadi decribes this phenomenon: (see Figure 6.25)

> *Fortunately, both dining room and leisure room are positioned in the middle of the house [...]. The doors of the surrounding rooms lead into both rooms [...] that are also connected by the circulation of house activities [...]. We spiritually perceive this room as a* natah umah *[...]; all family members interact here, chatting, laughing, eating together [...] and house life is in harmony [...].*
>
> I Ketut Sunadi, 36 years old, 26 August 2011

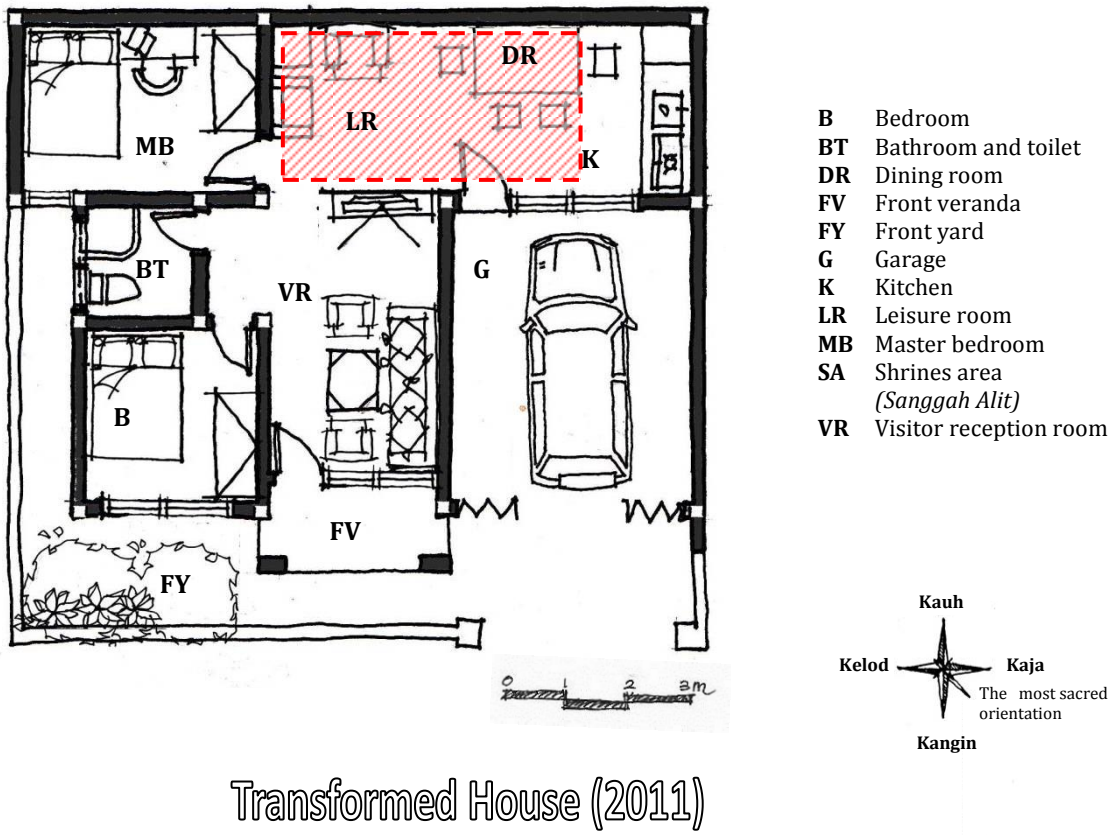


Figure 6.25 Ketut Sunadi's house

Leisure room and dining room (shaded on the plan) are perceived as a *natah umah*, or a centre of domestic life.

Meanwhile, Ketut Tangkas Swacita has another reason why his family accepts the living, leisure and dining rooms as a *natah umah*:

> [There are] *[...] no interior partition in three rooms [...], a big room accommodates three different activities [...]: entertain visitors, family gathering, and eating activities. This room is the most preferred by my family [...]. It acts like a bond that makes us come and gather in this space [...] yes, this is our* natah umah*.*
>
> I Nengah Tangkas Swacita, 46 years old, 23 August 2011

4. Changing the Original Function of the *Lumbung*

In the context of the expression of the universe in the Balinese house, another interesting phenomenon is also found in other habitable units. Some dwellers in traditional houses have changed the original function of the *lumbung* (granary). In a traditional dwelling that deals with local values, the *lumbung* is strategically located near the *angkul-angkul* (main gate) and *paon*. In Bali and parts of Java, after the harvest, two sheaves of rice which represent Rice Husband and Wife, are dressed and decorated like people. These are individually brought from the rice field by women and deposited on a special wooden throne inside the granary (Covarrubias, 1937). It is likely that in a *pendopo,* or Javanese pavilion, the special throne is also intended for the reception of the rice goddess *Dewi Sri*. Both night and day, the dwellers present offerings (Sumintardja, 1974).Underneath the granary is usually an elevated platform or *bale-bale* which is used for everyday activities: see Figure 6.26. Since the granary is built under strict cultural control, the structure has several names according to its size, shape and importance. As well as being a granary, this compound also has another function in accommodating the household's activity, such as preparing the offerings on the occasion of a festival. In the past, women used this platform for making hand woven clothes.

Nowadays, the upper level of the *lumbung,* where the agricultural produce was stored, is only an empty space and is never filled with paddy or rice. However, the space reflects past glories, in which the *lumbung* expressed the social status and prosperity of the owner. The size of this building can still reflect how prosperous the owner is. Hence, the residents attempt to retain this building at the heart of the house over generations. They may change the original function and add new functions. Some occupants in low-cost housing built a granary in their house and the sacredness level of these granaries has shifted so it is more sacred than it is supposed to be. One family uses the *bale-bale* or platform for social interactions, but they changed the upper level into a holy room, a *kamar suci*. An altar with statues and offerings is installed within it and can be used for daily prayer. The family considers this room to be holy and deserving of respect, especially owing to the connection with the ancestors. The following interview supports this finding, as well as Figure 6.27:

> *The appearance of the* lumbung *is more dynamic than other compounds. I was interested in having one in my house [...]. Four years ago, I had extra money and bought an assembled modern* lumbung*. It was built in the front yard, next to the* Sanggah*. [...] My family uses* bale-bale *for chatting, taking a nap, or chilling out, but on the upper level, I designated this space as a holy room [...]. My wife, our children and I pray daily together in that room where we can connect ourselves to the ancestors for happiness, wealth, and health [...].*
>
> I Made Sandy Aryawan, 53 years old, 29 August 2011

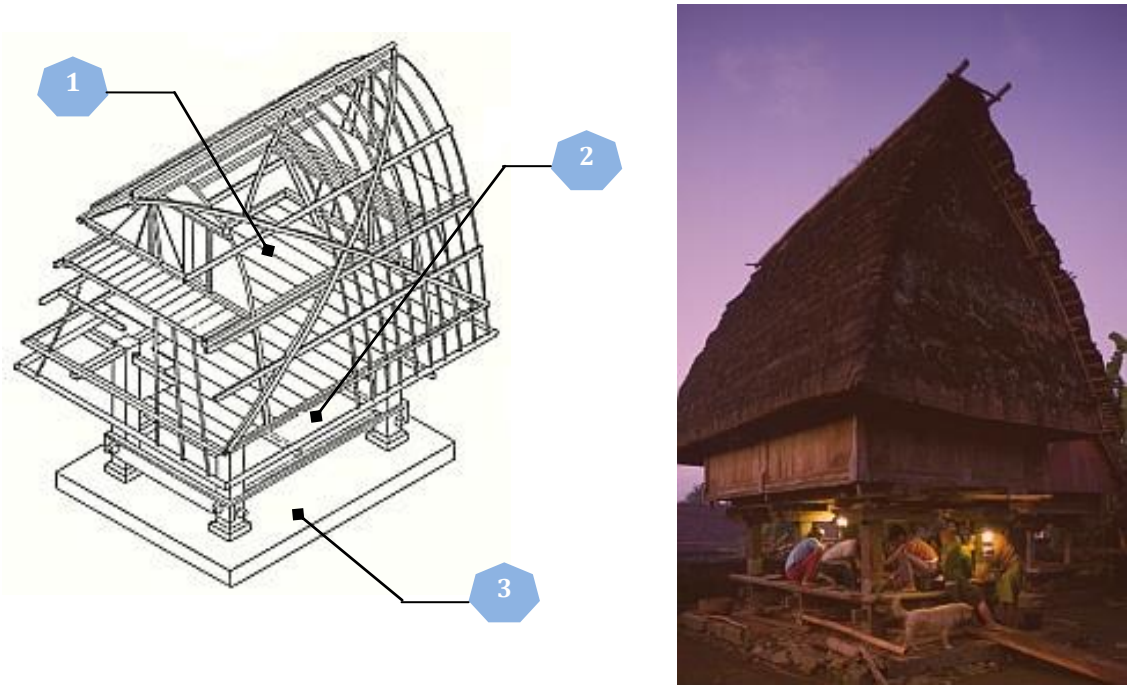


Figure 6.26 Construction of a traditional *lumbung* (Source: Sato, 1991:37)

(left) Construction of the lumbung is divided into three sections: 1)The roof structure is an empty space to store paddy or rice after harvest; 2) The body of the light construction has a *bale-bale* (a platform) and vertical poles that support the roof, foundation, and framework; 3) Foundation *(bebaturan)* is the lowest part of the construction.

(right) The *Bale-bale* is usually used for leisure and social interaction, both formal and informal, preparing offerings for festivals, and weaving clothes.

5. The Sacredness of *Paon*

Another aspect of socio-cultural change is the sacredness of the *paon*. People from some parts of Bali believe that this is one of the most sacred domains in the habitable units. This is indicated through keeping a *tungku* (a traditional stove*)* in this space, but is not used for daily cooking. A little statue is located behind the *tungku* and symbolises *Dewa Brahma,* or the Creator, who gives human life. After daily cooking, a small offering is presented to pay more respect to God for life: see Figure 6.28. This phenomenon is found in both traditional dwellings and low-cost housing.

Figure 6.27 *Lumbung*

The traditional function of the *lumbung* has changed with new functions.

(above) The *lumbung* in I Made Nichi's house. This family has two modern *lumbung*. Both are for leisure and social interactions, either family gatherings or for the neighbourhood. The dweller closed the upper levels and modified them into a simple roof (left) and an extra bedroom (right).

(below) Modification of *lumbung* is also found in low-cost housing. I Made Sandy Aryawan changed the original function of the *lumbung* and created a holy room on the upper level. Leisure and social interaction can take place on the *bale-bale* (left) and the stair beside the *bale-bale* to climb to the holy room (right).

Ketut Sudana explains the sacredness of kitchen in the house and how his wife does a ritual procession after cooking in that room:

> *Even though my wife utilizes a gas cooker for daily cooking, she has a traditional* tungku *on the kitchen worktop. It is made from clay and has a hole for firewood [...]. She does not use the* tungku *for its original function [...]. Keeping the* tungku *helps to maintain the sacredness of the kitchen for my family life. A statue behind the* tungku *symbolises* Dewa Brahma and *complete sacredness itself.*
>
> Ketut Sudana, 57 years old, 7 August 2011

Figure 6.28 The *Paon*, or kitchen, is one of the most sacred spaces in *habitable units*

(left) The occupant maintains the existence of the *tungku*, but it is not functional for daily cooking. The statue symbolizes *Dewa Brahma*.

(right) *Canang sari* (a small offering) is presented daily after cooking.

The findings highlight the fact that the Balinese house represents a symbol of the universe with God at its centre. As well as the Balinese respect for the Creator, dedication to the ancestors is also believed to bring good fortune. Religious practices can be seen in the efforts of the occupants to maintain the sacred pavilion, inner house yard, building appearance, and some cultural features, such as statues, the traditional stove, altar and holy room. Even though some changes have been undertaken to adapt to a modern life style and economic circumstances, the spiritual dimension of the house is maintained.

6.2.3 Identities within the Home: A Desire for Home-making

Some kinds of *home* were created at the very earliest stages of the settlement process. These are temporary shacks, most of which, particularly in low-cost housing, store the valued belongings which hold positive memories and which are attached to emotional experiences of that place. Additionally, the increase of family income has motivated the occupants to reflect their personalities in their homes. The house and its contents can express the values of its occupants (Kellett, 2013; Holston, 1991). Data from fieldwork identified a number of factors that can persuade the occupants to home make over ten years.

1. Social Acceptance and Personal Status

Rapoport (2005:118) mentions that material culture can commonly communicate the status of the occupants and can be symbolised by semi-fixed elements. Initially, material culture can classify the occupants' prosperity; this includes cars, motorbikes, television, VCD player, personal computer, laptop, washing machine, fridge, or landline telephone. However, developments in advanced technology and modern life style has changed the value of these materials in as much as they have become common elements. Most people even recognise that having an old brand second-hand car or a new motorbike can no longer classify the family as wealthy. This is due to the fact that many local banks, finance companies, and personal money lenders in Denpasar offer soft loans for middle and lower income groups for buying

consumption goods, including vehicles. They understand that the Balinese generally tend to spend their money on modern goods. Thus, it is now for the occupants from low-income groups to have material possessions such as motorbikes, fridge, television, and washing machine: see Figure 6.29.

Figure 6.29 Common elements of material culture (clockwise from the left)
(1) Washing machine
(2) Old brand second-hand car and motorbike
(3) Fridge
(4) Personal computer
(5) Television

Meanwhile, the social status of the occupants is commonly represented through other semi-fixed elements, such as satellite dishes, flat-screen television, new brand cars, and internet networks. Good quality hand carved furniture and decorations are also included: see Figure 6.30. If families have these elements, they can be considered richer.

> *Increasing family income offers me many opportunities for my personal status. More income means more desire to buy goods of better quality [...]. Not surprisingly, my house currently has new electronic products, a new model of car, hand carved furniture, even a modern style kitchen [...]. It symbolises a prestigious family [...].*
>
> Made Mandika, 54 years old, 30 August 2011

Figure 6.30 Material culture can represent personal status (clockwise from the top left)

(1) Satellite dishes
(2) The new models of car
(3) A keyboard
(4) A set of hand carved furniture
(5) A big flat-screen television
(6) A set of audio players

Briefly, material possessions that are displayed within the home can communicate the personal and economic status of the occupants and social acceptance by their neighbourhood (Despres, 1991:99). Higher family income increases buying capacity, which in turn offers more social acceptance and status.

2. Appearing the Personality: Filling the 'Things' in the Space

Dayaratne and Kellett (2008:64) highlight that attaching 'things' to spaces of the house is one process of home-making in order to reflect the personality and status of the occupants. Indeed, *'home is both the material and spiritual container of the occupants' life and brings a sense of totality to an individual and a family'.* In other words, filling the spaces with things can reinforce the identities of the occupants and personalise both the space and its image. These things include religious symbols, memorable possessions, or precious objects. This personalisation also engages with the occupants' fantasies and lifestyles through items which are displayable and visible, such as posters or calendars with popular people, favourite clubs, family photos, paintings, and other things.

The occupants fill the house with family photos. In many homes, it is common to hang a photograph of family members or relatives on the wall in the living room, leisure room, or dining room. Some even decorate the pictures of events, like weddings, in order to commemorate these ceremonies. The occupants are connected with affirmative memories, which are often reflected in their possessions. Shenk et al. (2004:165) explained that filling the home with such photographs shows how important those people in the images are to this family. These photos also display *"the theme of connection"* (Rowles, 1987) and *"possession as symbols of others"* (Kamptner, 1989:181). The images are often hung in spaces where the family and outsiders can see them in order to send a message about their lives. Additionally, the theme of connection between birthplace and home can be created by displaying artworks, such as decorative paintings and traditional musical instruments. The occupants commonly hang some decorative paintings in the living room, leisure room, dining room, even in bedrooms. Balinese decorative paintings are famous; as a result, they decorate their homes with these paintings. A few occupants also decorate the spaces with a *kendang,* a traditional musical instrument. The artworks remind the occupants of their rural identity and of the place from they come, although they have decided to spend the rest of their lives in the current place: see Figure 6.31.

All family members, in particular teenagers, can take part in creating a home. They commonly affirm their own private space through the visual representations of their favourite things, such as posters of football clubs, photos of popular actors or singers, and dolls or toys from animated films. Parents generally dominate the domestic spaces; consequently, teenagers' bedrooms often become battlegrounds for privacy and control (White, 2002:228). Meanwhile, the older people are likely to fill the home with pictures and the things, both graphic and photographic, rich in memory and meaning (Gilroy and Kellett, 2005:1).

The Balinese have a specific calendar, which highlights the good days for all activities, both daily and occasional, ritual festivities, horoscopes, and efforts to avoid the bad things. All Balinese have this almanac and put it in their homes as a guide. Some people also put posters and stickers of *Dewa Siwa, a* representation of God, in their home. I Nengah Tangkas Swacita, one of the interviewees, explained that as a believer in *Hindu Siwa*, he put the posters of this God on the wall in important spaces, such as the dining room and bedrooms in an attempt to attract good fortune and health, and to protect his family from negative things. Meanwhile, a *pelangkiran,* or sacred shelf, is found on the walls of every home. Offerings for daily prayer are placed on this shelf. As a result, it is commonly located in bedrooms, the kitchen, dining room,

or on the veranda. These religious symbols can represent the identities of the occupants, which are constructed through such displays but which are not intended only for outsiders: see Figure 6.32. In this sense, religious and cultural objects are used to symbolise the belief system of an ethnic group and religion.

Figure 6.31 Filling home (clockwise from the top left)

(1 and 2) Family photos in a visitor reception room
(2) *Kendang*
(3) A decorative painting in a leisure room
(4) A poster of favourite football club in a bedroom

As part of the process of home-making, the occupants fill their domestic spaces with their treasured possessions over time. Enabling the making of home is part of the process of inhabiting. It is about establishing, nurturing, and managing social relationships and bringing together spaces, objects, and elements to represent and celebrate desired relationships, events, and memories. In this sense, material things are used to symbolise the personality, identity, status, and aspirations of the occupants.

Figure 6.32 Religious and cultural objects

(above) The occupant hangs the Balinese calendar on the front door (left) and a poster of *Dewa Siwa* on the wall of the dining room (right*)*

(below*)* *Pelangkiran* (left) and a sticker of *Dewa Siwa* on the mirror in a bedroom (right)

3. Home Sanctification through Ritual Performance

Home possession in many non-Western societies involves sanctification of the ground through a series of rituals. This sanctification is accepted as the truth in order to make the house and boundaries become a part of the family. Rituals are carried out in order to transform the ground into the *domicile base*, including the supernatural (Dayaratne and Kellett, 2008:65). They believe it is a way of engaging protection for the family through cosmic energies and the discharging of evil manifestations.

The old manuscripts (Manawa Dharmasastra and Sarasamuscaya) mention that the Balinese house should have four elements of goodness: plants, flowing water, delightful rooms (bedroom, leisure room, living room), and truthful words. The plants and flowing water are natural resources that give life to humans, whereas delightful rooms are needed to recover the exhausted energy of the occupants at the end of the day. Truthful words play an important role in creating a harmonious family life. For them, home is a place to develop the concepts of a balanced life, both inside and out. As a result, the above elements are essential to create a harmonious home that embraces the environment and social relationships of the occupants in order to respect God.

The atmosphere of the domicile base for Balinese Hindus is present when the house has been given *melaspas*, or a series of specific sacred rituals. All stages of construction are celebrated with ceremonies. The peak of these rituals commonly comes with the placement of three kinds of *orti* in the ground. The *orti* symbolise the spirit of home; the house is believed to be animate, not merely a new physical shelter. From this house, a harmonious life can be started and developed within the life span of the occupants. Through this process, the house is set apart as the abode of the future occupants. Similarly, house construction rituals are also carried out when the occupants complete refurbishment of the interior, renovation, or when they demolish the house. The day of these rituals is determined by the Balinese calendar which mentions which days are good for starting the construction and what kinds of *orti* the occupants need for home sanctification.

Evidence provides a broader picture that the act of home-making aims to establish and develop social relationships through bringing spaces and elements together in order to symbolise events, expected relationships, and memories. Over ten years, the occupants continually create homes and actively construct their personal, social, cultural and spiritual understanding of home. Nevertheless, interestingly, it is likely to be religious objects of home – the specific calendar, stickers or posters of God, the altar, sacred shelves – that are commonly placed in Balinese houses; indeed, reflecting social status and personality through the material culture of home has become more common. An advanced electronic system, new model of car, expensive wood carved furniture, or a poster of an international football club, movie star, or boy band are common objects for filling the home.

6.3 Hybridisation: The Emergence of New Cultures

From the evidence in the study, I observed that globalisation and modernisation have directly affected the process of cultural change in the home life of the Balinese, and that this has led to the formation of new identities. Mercer (in Barker, 2008:255) argued that *"identity is hotly debated when it is in crisis*." When stable identities are perceived as 'natural', these are rarely questioned. In contrast, when stable identities are seen to disappear, examination of these identities is needed in order for them to be reconstructed. In this context, globalisation is viewed as a process of hybridisation that leads towards a global culture (Pieterse, 1995:45).

Two sections in this chapter have discussed the process of cultural change, in both domestic life and the process of inhabiting. Nevertheless, globalisation and modernisation have not automatically eliminated the essence of Balinese culture. Cultural change in the modern world

has made cultures more alike in some ways. Therefore, I support the ideas of Barker (2008) that creating new identities and culture forms can stem from the concept of hybridity. The Balinese are creating new cultures that will be discussed in the following sections.

6.3.1 Family Structure: Tendency for Nuclear Family

Many scholars reveal that the house's spatial structure is affected by changes in the family structure (Faqih, 2005; Sueca, 2003; Tipple, 2000; Gosling, et al., 1993; Seek, 1983). In developed countries, the nuclear family is considered preferable to extended family. Evidence also shows that the number of single parent families has been increasing over time. Referring to their research on compound housing in Kumashi, Ghana, Andersen et al. (2006:2) also add *"although the western style nuclear family household is seen by most people as an ideal (modern) and the multi-habitation compound house as the symbol of the past (backward), some of the modern family dwellings are still built to accommodate several households."* Sueca (2003) emphasises that *"in the past, extended families dominated the social structure."* These families had many members and they lived together in the same area. There were no physical territories between households and they shared domestic spaces for daily life. Moreover, it was common to find that only parents had an enclosed room for sleeping, while their daughters slept in shared bedrooms with relatives and their sons slept in open pavilions. After marriage, parents then built their son one compound in the same area for starting a married life. However, they still shared domestic facilities, such as bathroom, toilet, kitchen, and well.

A new paradigm of family structure is emerging among in urban dwellers in the Global South. This is happening inevitably happens among families in Bali, particularly young couples. Information technology gives them some ideas about an ideal modern family: small in size and independent. Family size has recently become smaller with one or two children the norm. Young couples are more self-determining than in the past, either buying or renting a small house is preferable for them. The urban Balinese are more likely to live as a nuclear family than with the extended family. Indeed, data from the fieldwork show that there is a growing tendency for only parents and the inheritor to occupy many traditional houses. Nevertheless, a few nuclear families live together in the same area and share a family shrine and common facilities, such as water well. Every household defines their own territory either with walls, pavilions, or invisible borders. Ketut Sudana describes how he shares the plot with four brothers: see Appendix F, p. 289.

> *We share the plot with five nuclear families [...]. Every family occupies one compound and has their own kitchen, bathroom, toilet, and open garage for motorbikes [...]. We only share family shrines, the sacred open pavilion, and the water well [...]. It looks as if there are no boundaries between us, but actually, an invisible border marks the territories [...]: an agreement on land subdivision [...]*
>
> Ketut Sudana, 57 years old, 7 August 2011

Additionally, globalisation also brings some new ideas about feminism and human rights. Even though many parents still follow a patriarchal concept, they have started to consider daughters in the inheritance system and in obtaining a good education and future career. They have the same opportunities as their brothers, so Balinese women are more independent than in the past.

Independent life is preferable for my son, […], so after getting married, he bought a small house in another place and lives separately there [...]. My second daughter did the same and lives in another house with her husband and children [...]. Nevertheless, I allow my youngest daughter to stay here with her family, in this house [...]. I would like to make all my children, both my son and my daughters, heirs [...]. For me, they have the same rights in the inheritance system [...].

Komang Budi Artawan, 61 years old, 29 July 2011

Balinese society has become open-mind over time and can accept the idea of divorce. To be a single parent is a reasonable option for these families.

[…] as a single parent with two children, I enjoy my life [...]. My extended family give me freedom to choose the best option in my life and respect all the choices I have made since I divorced my husband [...]. I have no inclination to get married again, at least not yet [...], I do not know about later [...]. Importantly, my children and I are happy and my parents do not mind about it [...].

Ni Wayan Sudri, 51 years old, 20 August 2011

Young families have become well-educated, so they are more open than in the past. With smaller family sizes, the relationships among members are closer, more intense and privacy, and family-oriented. It also means, however, the smaller family size less the sense of collective and sharing to others among family members.

It can be understood that this is the reason compact houses are more popular and preferable than traditional compounds for young families. It is due to the fact that this type of house fits with the new paradigm of modern family, in particular with new family structures and relationships. On this point, I share the same viewpoint as Sueca (2003).

6.3.2 Maintaining Family Roots: the Prominence of the House

Amole et al. (1993:357) describe how many residential properties in West Africa belong to families rather than individuals. The extended family is common to most African societies, so in an urban context, the family house offers insights into the special problems and possibilities for policymaking. Family members who inherit rights of residence occupy the house partly or exclusively. It represents, in a physical entity, the power and solidity both of the extended family system collectively and, in the scale of each house, the wealth and power of the nuclear family. Additionally, from another perspective, Waterson (1993:221) reveals that during the day, dwellers in South-East Asia spent their time outside the house rather than in buildings. As a result, the house was a place for family connection. House was their site of origin. Therefore, the motivations beyond the house need to be explored concerning the interrelationship of family structure and ritual.

Data from fieldwork shows that, for social and religious reasons, the Balinese have a strong inner connection with their original village and house. Even when living in separate places, either in other cities or on other islands, the occupants build their community organization and kinship systems. In the new places, they also express this relationship by maintaining their original houses, family temples and village institutions. This obviously occurs in their customary villages. As a part of either the village, community or extended family, they should

be involved in many activities, both profane and ritual. How strongly the migrant Balinese relate to these villages can be traced through the following interviews:

> *[…] My wife and I get many invitations to Ubud, my hometown [...] for festivals, praying in the family temple, weddings, funerals […]. As a part of both the extended family and customary village, I have to get involved in the traditional ceremonies of the extended family, take part in many activities of* desa adat *(customary village) […]. Finally, I hope my* ngaben *(cremation) will be done in that village […]. Then, that time is a good opportunity to reunite with my ancestors in the house of origin […].*
>
> Tjokorda Made Atmaja, 54 years old, 29 July 2011

> *I am the only son in my family, so according to the patriarchal Balinese system, I am the heir to my parents' house […]. It means I am responsible for maintaining the house of origin and family shrines. […] all social obligations in the customary village are in my hands too […]. […] I have to return home as often as possible to help my parents […].*
>
> I Kadek Dwi Yudha, 44 years old, 9 September 2011

Owing to the fact that the traditional village is also the house of origin for the occupants, all ceremonies will be carried out in this place. This means that most urban migrants return home to conduct these ceremonies. In this context, the house is their ritual site. In other words, it is their *primary* house, whereas the urban housing that they have built is the *secondary* house. The primary house is more than just a physical shelter and has the additional value of being a *home* with all the spiritual dimensions for the occupants. Similarly, inner-city traditional houses are still regarded as ritual sites for most of the members of the extended family who claim to have an ancestral relationship. This phenomenon supports the ideas of Waterson (1993). Meanwhile, according to the four main forms of family houses identified by Amole et al. (1993:357-358), traditional Balinese houses can be categorised as the *original family house*. As such, the house belongs to the family and each member of the house can use it for the customary functions that need to be conducted. On the other hand, the new paradigm of the modern family has encouraged compact houses to become more popular. As a secondary house, young families are provided with a capital asset that can be bought and sold and has an economic value that increases or decreases in line with the housing market.

In-depth interviews also reveal that a few occupants undertake some religious activities in low-cost housing, such as the ceremonies marking the first three months of life and *otonan* (the six-month ceremonies). This is due to the house being a mono compound; they use a bedroom, leisure room or visitor reception room for accommodating these activities. These ceremonies are more individual and have no community or neighbour involvement; other ceremonies are still carried out in house of origin. Therefore, the possibility of using the secondary house for sacred ceremonies may increase in the future.

Ultimately, the above phenomena give a clear understanding of the status of the house for the Balinese. Commitment to providing low-cost housing is strongly encouraged for economic advantage; in contrast, cultural attachment is the main reason for housing investment in traditional dwellings. Even though the occupants in low-cost housing have changed their houses, the house of origin in the hometown is still regarded as *a real home*.

6.3.3 Duplicating the Original Home: A Process of Consolidation

Numerous occupants in low-cost housing have improved the status of the house, from a secondary to primary level. This is indicated through the placement of a shrine for the ancestors in the *sanggah* (family shrine). As well as a *padmasana* (a shrine for the palace of God), the occupants also added a *kemulan* (a shrine that has three ancestral spaces). They believe that the existence of *kemulan* in this house can support an inner communication between the occupants in the secondary house and the house of origin in the original village: see Figure 6.33.

> *Adding a* kemulan *in* the sanggah *enables my family to conduct all ritual ceremonies in this house [...], so we do not need to return home to our original village. While carrying out ceremonies, the priest can support a spiritual connection with the ancestors in my house of origin in Singaraja through the* kemulan *[...].*
>
> I Ketut Adianta, 38 years old, 23 August 2011

> *When I bought this house after getting married, I had a plan to build family shrines upstairs and put in a* kemulan *in this area [...], of course if family income allowed me to realise the plan [...]. Seven years later, I extended the house and finally implemented the plan [...]; hopefully, this house can be a house of origin for my nuclear family. The existence of* rong telu *makes easier an inner connection with my ancestors in the* kampung *(original village) in Tabanan [...]. Family shrines can be said to complete the* sanggah *if this area has at least two* pelinggih *(shrines): a* padmasana *and a* kemulan *[...].*
>
> I Ketut Gunawan, 38 years old, 12 August 2011

Figure 6.33 *Kemulan* in family shrines in low-cost housing.

(left) *Kemulan* in I Ketut Adianta's house
(right) Family shrines in I Ketut Gunawan's house are positioned on a higher level and are completed by a *kemulan.*

Above all, the process of housing transformation enables the occupants to be personally involved in the process of cultural change. It means that every individual is an active initiator in communicating self-identity to support the emergence of new cultures. New ideas may be generally accepted and, through a process of consolidation, these ideas possibly will develop to be new identities of the ethnic group. This phenomenon is a real implementation of Barker's (2008) vision of hybridisation which was outlined at the beginning of this section.

6.4 Conclusion: A Spatio-temporal Order of the House

Socio-cultural lives in Balinese houses have obviously changed over ten years. Some behavioural settings and ideas were common at one time, but those have been modified or replaced at another time. For this reason, when describing a culture, it is important to understand that a description of the socio-cultural settings refers to a particular period. The discussion in this chapter shows how and why the socio-cultural lives of the Balinese have changed and briefly reviews some of the widespread changes that have occurred in recent times. The movement toward housing change may come from within the society or from without. From within, the unconscious or conscious pressure for consistency will produce culture change if enough people adjust old behaviour and begin thinking in new ways. Change can also occur if people try to invent better ways of doing things. A good deal of cultural change may be stimulated by changes in the external environment.

The Balinese believe that the length of life is a sacred time. Each stage of life must be purified by ritual processions, from birth to death ceremonies. Their houses symbolises the universe with the Creator at its centre. Dedication to God and the ancestors causes the Balinese to practice religious activities, both in daily prayer and occasional festivities. These activities are well preserved over generations. Moreover, daily activities meet old values and new ideas. The new ideas have changed behavioural settings in house life and the use of domestic space. Cooking, eating, sleeping and social interactions are universal domestic activities, but in practice, these activities are culturally variable. They are not only about responsibility, but also represent dignity and the social status of the family.

The belief system and worldview of the occupants play an important role in the way that they order cultural settings and implement them in their houses, particularly in terms of determining the hierarchy and the sacredness of domestic spaces or compounds in the house layout. Over the ten years covered by this study, the metaphysical view of the Balinese has been preserved, although their lifestyles have become modern and internationally-oriented. Some modifications have been undertaken behaviourally and spatially, but essentially, this has not changed the meaning of the house. A range of evidence shows that in the process of inhabiting, the occupants attempt to develop the house beyond basic functional necessities. Home making with material culture, evidenced by religious symbols, memorable possessions, or precious objects, aims to express the value of the occupants' personalities and social acceptance, whereas home sanctification through rituals is designed to give cosmic positive energy to the family. The Balinese are creating a new hybrid, a result of the acculturation process of other cultures that are brought by globalisation and a sense of feeling at home.

To recreate the atmosphere of the original village, the dwellers in low-cost housing construct social organizations in their residential areas that are similar to customary institutions *(banjar).* These organisations are led by a *kelihan banjar* who is elected by the members. Attempting to duplicate their original home through a process of consolidation over time increases the sense of community. In the end, the sense of feeling at home strongly motivates the dwellers over time. Thus, it is understandable that the Balinese tend to improve the house rather than move to another place, whilst they also uphold strong social ties to their original village. One reason for this is their robust enthusiasm in investing more in their dwelling and

improving it in the process of home making. The social identity of the Balinese is implemented passionately in their houses and neighbourhood areas.

In the final chapter, this theme will be discussed by synthesising other themes which were raised earlier in this research. This integrated discussion concerns creating a core concept of urban housing for Bali, including core, peripheral, and new elements, by investigating which of those are negotiable and which elements are continuous. The house brings considerable energy for change and enables us to identify some aspects of dwellings which are maintained as a result of past tradition, and some aspects which are less important, as well as allowing us to observe any new elements which have been adopted.

chapter 7

Concluding Discussion: Behind the Phenomenon

Chapter 7. Concluding Discussion: Behind the Phenomenon

> *Slowly it is becoming our house. With each new coat of paint, each box unpacked, each tile set into place, we begin to feel our presence in its past…. We treat the house, the house which is slowly becoming ours, with some respect. We, after all, have moved into it. It may be our new house, but we are its newcomers…. Yes, other families have settled here, other lives have been played out here. But now, it is our time. We renovate, renew this structure, make changes. Slowly it is becoming ours.*
>
> (Goodman, On "Second Time" Marriages and Houses, 1982, p. 5)

Concluding Discussion: Behind the Phenomenon

Learning from the Home Lives

> *The answer to a series of questions in my mind while exploring the field for the first time, finally appeared. I can understand each one of these questions. Why are some people so attached to their houses? Why do some people so perfectly enhance their houses? Why does someone give 'a life' to his/her home? Then, many questions marks were raised by my curiosity.*
> *The day after tomorrow, I have to go back to my desk in the university. Recorded interviews, photographs, field notes, and rough sketches can help me to explain these answers in order to reveal the phenomenon within paragraphs. What valuable lessons can be learned from exploring the circumstances?*
>
> Field notes, 15 September 2011, 10:03 pm

It is important to bear in mind that beyond housing transformation, dwelling is essentially a complex phenomenon. No single explanation will suffice. A single theme – the variations in life ethos, ideals and beliefs – offers all possible explanations in answer to the emergence of different physical environments. Differences in these responses from place to place are due to changes and differences in the interplay between factors. Among them are socio-cultural lives; the socio-cultural life of ethnic groups changes gradually with the passage of time. As a cultural phenomenon, the formation and organisation of the house is influenced by cultural settings. This study has explored the nature of the above interactions between the occupants and the urban dwellings in Bali in the process of transformation. This interaction articulates specific aspects of socio-cultural lives from a spatio-temporal perspective. In this context, the exploration of the phenomenon needs a specific timeframe to investigate these connections deeply.

This chapter does not aim to summarise the previous chapters, but mainly proposes to clarify the relationships between some of the main themes and issues. This begins with an integrated discussion, which reflects on the research questions and consists of several lessons that have been learned from the phenomenon of house lives. The second part explores the implications of the findings with regard to establishing links between theory and findings on the ground. This part identifies aspects of socio-cultural lives within three elements of change and continuity: *core*, *peripheral* and *new* (Rapoport, 1983) through analysis of changes made in the past and more recently. It also identifies the trends of these elements in the future in terms of approaching supportive design. This section is then followed by suggestions for a more responsive initial design, an outline of the shortcomings of the study, and a closing note that reflects my thoughts on the whole research process. Therefore, the final chapter offers a comprehensive picture of the study and its contribution to wider knowledge.

7.1 Valuable Lessons

Exploring the phenomenon in the field uncovered some substantial lessons. Tipple's housing transformation research (2000) in several countries in the Global South suggests every country provides a different context, involving many relevant variables and intersections. In common with other countries that have a specific character within this process, transforming domestic architecture in Bali reveals some uniqueness that can lead to the development of relevant theories. This part describes some lessons learned from such phenomena in terms of the following points:

7.1.1 The Rootedness of a Family

As the core concept in housing adjustment theory, life cycle events are inspired by Western life-styles. In other words, most studies on this subject have developed from three continents: Europe, North America, and Australia. As a result, both basic and advanced theories of life cycle events are generated by Western concepts. In light of housing consumption patterns, debates and discussions are continually conducted in the search for possible countervailing theories from those countries and societies that have different concepts of life cycle events.

There are different perspectives on family life in Western and Eastern countries, so the concept of life cycle events also varies. For instance, in Western families, people usually leave their parents' houses for smaller accommodation and live independently before starting married life, whereas it is common in Eastern cultures for parents to expect their young married sons to stay in the parental home, even if this is for the rest their lives. In Balinese culture, it is not the custom for the young generation to leave home, and they are expected to look after their parents in their old age. This tradition motivates young families to live with their parents in extended families. Furthermore, the older family members, who left their parents' houses in the past, will 'return home' to the *kampung* for retirement due to the strong cultural bonds to their house of origin. Consequently, examining the housing consumption of the Balinese through Western life cycle concepts requires an appropriate understanding of these differences.

Section 5.1.1 clearly demonstrates that the growth in demand for space in Balinese houses caused by increases in family size is the main reason for increasing housing consumption. As a result, the need for bedrooms due to family size and family growth is the main motivating factor for the occupants to transform both traditional and low-cost housing.

The current study shows that moving house is not a common option for the occupants in traditional houses. Nevertheless, the acceptance due to globalisation of western concepts of modern family life encourages young couples to leave home and live separately in nuclear families (see Section 6.3.2). Nuclear families in traditional houses in the same area often prefer to keep their territory with boundaries, such as fences, pavilions, plants, or virtual boundaries. Therefore, in circumstances where moving is impossible because of economic constraints or cultural preferences, the most common decision is to improve the house.

The importance of the house of origin lies in its rootedness, which restricts the family heirs from selling the house. They maintain the meaning of the house as part of a symbolic representation of the world within which God and ancestors reside with the extended family. In contrast, low-cost housing, as a secondary house, can be bought and sold to others. However, there are some cases in low-cost housing which show a new paradigm, in which the occupants have built completed family shrines in order to duplicate the house of origin, thus enabling them to conduct significant ritual processions without returning to the original home. Therefore, this house gradually shifts to be a primary home which has the same status as the house of origin.

Tipple (2000:46) suggests that the owner should provide possibilities for their house to accommodate the next generation. Indeed, cases in Bali show that, due to cultural attachments, the transformation legacy is important in housing consumption over time for a family. They consider this legacy a part of the inheritance and patriarchal system. Accordingly, it is not surprising that many traditional houses are occupied only by parents and their heirs – commonly the youngest sons. The relatives may stay temporarily in this house for occasional ceremonies. Many rooms or compounds are empty and this enables the occupants to sublet or rent some parts of the house for economic activities.

7.1.2 Negotiating Domestic Spheres

Section 6.3.1 reveals that ideas of modern family life from Western cultures have motivated young couples to move from their parents' houses and live independently in other places. They often buy a small house or rent cheaper accommodation to start a new life. As a result, Type 36 and Type 45 houses, which have plot sizes of 80-100m^2 and 90-125m^2 respectively, are an appropriate option for them. These houses simply accommodate the basic human demands of a dwelling, and thus consist of one living room, one bedroom, bathroom/toilet, and kitchen. All rooms are small and provide a limited space for minimal household goods. Consequently, it can be understood that modern Balinese families who live in low-cost housing are confronted with the challenge of fitting domestic life into the physical shelter. They must cope with physical, spatial, and socio-cultural issues, which encourage them to continually adjust to the house in response to changing needs in a self-motivated process.

Housing adjustment leads to change and improvement in domestic spaces and change itself is an inevitable process within any socio-cultural context. Maintaining both old respected cultural aspects and adopting new values are essential in this housing adjustment process. For the Balinese, a house is not simply *a roof over their heads* in accommodating habitation activities; rather, a house has many terminologies. One of them is a ritual site where the dwellers use most parts of the house to perform ritual ceremonies, often on a daily basis.

For the above reason, modern family life in Bali may necessitate low-cost single family housing as an innovation (see Section 6.3.2). One compound gives *a roof* to the whole family. Four basic spaces within this house – the living room, bedroom, bathroom/toilet and kitchen – are gradually allocated to increase domestic activities. This is different in nature from the problem of architect-designed houses. Architects design these houses and attempts to accommodate the owner's ideas in creating the most appropriate shelter. In contrast, architects who design the national low-cost housing types have insufficient sensibility of local cultural values, especially in Bali. They start the project with an economical calculation of the total sheltered space which housing consumers are able to buy. As a result, after settling into the limited spaces, dwellers will negotiate the best possible outcomes for their house life, such as ritual and habitation activities, sacred and profane spaces, filling the house, and so on. This negotiation has to be determined within the requirements of family life and economic resources.

Even though limited space is the main constraint, cultural transition is also an important motive for transforming the house in order to accommodate socio-cultural lives. Nevertheless, most transformers regard their dwellings as capital, either for the current household or for the next generation. Their willingness to transform is counter balanced by their expectations of an increase in the exchange value of the property.

The study also supports the argument that small plot size has influenced the design, but has not inhibited the transformation (Tipple, 2000). This is clear in the low-cost housing with the original design Type 21; the transformation of this house over ten years occurs as a result of the interrelationship between the occupants and their dwelling in order to meet requirements. This circumstance is relevant to the ideas of Kellett et al. (1993). When housing extension is not possible, either horizontally or vertically, the occupants transform the house by changing the use of space without any construction activities. Nevertheless, a few cases show that due to the limited budget, the process of transformation gradually lowers the quality of the dwelling. This was also found to be the case by Owen (in Tipple, 2000:40): *"…It begins in the imagination of the people who built it and is gradually transformed, for better or worse, by the people who occupy it down through the years, decades, centuries…"*

Meanwhile, Section 5.1.2 explains that in traditional dwellings, the house is commonly re-ordered for adjustment purposes leave to sustain the origin or source of the ancestors. As a house of origin, these dwellings are also transformed for use in customary functions that may be necessary. The influence of cultural transition means that these houses survive due to kinship responsibility in parallel with globalisation and modernisation. This is applicable to what Vellenga (in Amole et al., 1993:356) describes as *"interconnecting spheres of traditional and modern life."*

7.1.3 Every House is A Work in Progress

In different ways, all the occupants have changed their houses over ten years. Indeed, when revisiting the field in March 2013 for a few weeks, I observed that some families, in particular those who live in low-cost housing, had changed their houses in the period of time from 2011-2013, from the last investigation until the second viewing for data validation. This is not surprising because a house is like a living being which grows in relation to the occupant's life. Turner (1976:151) describes this phenomenon thus: *"the house as a 'verb' that describes the process or activity of housing."*

The main reason that the occupants had changed their houses by the second revisit was a strong desire to reach the preferred level of housing in the current dwelling, aiming for expressions of identity, social acceptance and personal status. Increasing family income enabled them to do this. When both primary and secondary levels of basic human needs have been fulfilled, there are opportunities to actualise self-expression and socialisation through home-making. Alexander et al. (1985:16) states that one of the necessities of the housing process is accommodating values, in terms of both the house and the status of the occupants.

Occupants had undertaken this process of home making in many ways. The most common was filling the home with material objects, such as new models of car, decorative objects, colourful walls, electronic equipment and good furniture. In this way, the occupants attempt to realise their aspirations for their dream future home in the current house. The activity of filling the home is continuous in order to reach the desired version of 'a home'. Tognoli (1987) highlights those home preferences that can differentiate the essential qualities of a home – centrality, continuity, privacy, self-expression and personal identity and social relationships; – the occupants experience and express their feelings in the process of becoming at home. Therefore, it can be argued that, when people become house owners, they tend to stay in one place and improve it step by step to achieve the desired level of housing. This process of inhabiting is evident in low-cost housing (see Section 5.3.1).

In contrast, at the same time, relatively few changes were made in traditional houses due to the fact that they do not have sufficient space in the house yard for horizontal extension. The occupants in these houses transformed their dwellings through changing the use of space. New functions that had been added were often linked to economic activities, such as renting rooms to migrants. The main road (Jalan Raya Sesetan) is in the heart of one of the commercial areas in Denpasar, so this area provides many opportunities for business. Migrants, from both cities and islands, need temporary accommodation and this provides a good chance for local people who live along the main road to generate income for the family.

The above observation strongly supports the ideas of Habraken (1970) that a house is a continual process and interactions take place between the occupants and their dwellings in many ways, such as adaptation, alteration, or refurbishment. Additionally, it emphasises Turner's (1972) point of view that the house is also a sphere of influence in terms of the complexity of interactions among occupants. A house is a product of the occupants' lives and the physical expression of their place in a world that continually changes over time.

7.1.4 The Richness of House Symbolism

Waterson (1997:xv) emphasises that *"for the anthropologist, the study of inhabited space, its construction and daily use, can provide a way in to a whole culture and its ideas."* For this reason, inhabited spaces reflect the cultural values of the occupants. Houses from all cultures can have symbolic dimensions and carry specific messages. Rapoport (1969:131), who has been a major contributor to the understanding of meaning in built form, argues that this meaning is inherent in people, not in things. It is due to people wanting to capture certain meaning in their environment. Even though architects design a small part of the built environment, it is the people, as inhabitants, who put effort into personalising their own territories and imbue these places with symbolic meaning.

Rapoport (1969:132) points out that in some sense the house reflects social ideologies and an ethos of living. Waterson (1997:xvii) explains that *"the house is a microcosm that reflects in its layout, structure, and ornamentation the concept of an ideal natural and social order."* Therefore, the house has many symbolic domains that serve different symbolic purposes in different contexts. Balinese houses and settlements confirm the ideas of Rapoport and Waterson. These built environments offer people a meaningful symbolism and information. Section 6.2 illustrates that the main beliefs and cultural practices of the Balinese are drawn from its imagery. People order the house with regard to what they believe and practise in daily life, which occurs in a continual interplay between dweller and dwelling.

It is important to define the image and meaning of the house as this can help in explaining the differences between houses in many places and can be an important aspect in low-cost housing. The study demonstrates how the occupants in these houses gradually change their aspirations and lifestyle to a higher level. For instance, due to increasing family income, some dwellers can afford to change the building style and appearance from that of a *'standard house'* to either traditional or modern-minimalist, as a symbol of belonging. However, some occupants lack the confidence to do this.

Another example concerns changing attitudes toward eating. Most occupants in urban dwellings in Denpasar provide a separate dining room for a formal family meal. Traditionally, the Balinese are accustomed to eating informally outdoors while sitting on the floor together, or eating separately in the kitchen. Providing a dining room motivates them to change their attitude to eating, from informal to formal activity (see Section 6.1.2). Similarly, attitudes to the bathroom have changed. In the past, the Balinese washed and took a bath outdoors, such as in a river, a natural shower or water well area; even today, a few people in traditional houses still take a bath outdoors in a semi-enclosed bathroom around the water well in the house yard. However, using an enclosed bathroom and toilet in a house has become commonplace and some people have started to leave the bathtub and use a shower and dry toilet, so the name of this activity has been changed from 'taking a bath' to 'taking a shower'.

Section 6.3.1 explains that Western ideas of the modern family have encouraged the Balinese to become more individual and to be separated from the extended family. This is clear in the families who commonly move into low-cost housing after getting married. Meanwhile, some cases show that the nuclear families in traditional houses who live together in the same plot build their own territory, either with visible or invisible boundaries. An expression of

territoriality seems to be a crucial concept and they respond to the ideas of the enclosed community, a symbol of security and prestige. In the past, the concept of togetherness was familiar in Balinese socio-cultural lives, but there has lately been a considerable increase in the concept of boundaries and increasing desire for privacy.

Interestingly, even though the old paradigm of the Balinese has been gradually shifting to become more global, they still attempt to implement the concept of cosmology in their houses. For instance, most Balinese accept the cosmos-religious concept of *Tri Angga* which states that buildings represent the human body: *the head* (roof), *human body* (rooms, walls), and *the legs* (floor, sub structure). A few dwellers have transformed their building façade following modern architectural style and the building's appearance is therefore considered by some to be more attractive. Nevertheless, the façade is still capable of expressing the *Tri Angga* concept (see Section 6.2.1). Additionally, when building housing extensions, they strongly uphold the importance of cardinal directions when determining the hierarchy of spaces: family shrines are maintained as the most sacred area, although occupants have changed the habitable areas to be more profane.

It can be clearly noted that people order their houses through transformation, not only to preserve the old imagery, but also to develop the cultural symbolism of the house. The *house* is also a group of people who are its members. These people have ideas and beliefs about their dwellings, which are still regarded as powerful, sacred and alive, and represent these in a number of symbolic meanings.

7.1.5 "It is like a Satellite"

The above terminology inspired me to understand the nature of the relationship between the Balinese and their dwellings. In a supervisory meeting, my co-supervisor asked me several questions:

> *I know about the Balinese and their culture. They are a religious society and believe in metaphysical views and cosmic energy [...]. When facing a life problem, they would prefer to see a priest to find a solution [...]. When you started your day in Newcastle, you were probably not familiar with your flat [...]. [...] and you would see the different views in the meaning of home between Westerners and Easterners [...]. Were there any influences of your house of origin on your life here? [...] Do you still respect the philosophy of your home, even though in fact, you live here?*
>
> Graham Tipple, supervisory meeting, 11 April 2013

After a short silence, I admitted that I had had contrasting views of home when I occupied the flat. An example was determining the sleeping position. In common with other Balinese, I believe that the house is the expression of the navel of the universe, so cardinal orientations become an important aspect in order to define the sacred and profane spheres. Accordingly, the sleeping position should follow these orientations, in which, the head is positioned in either east or north. However, the spatial arrangement in my room does not offer me any possibilities to put the bed in the proper position. This is due to the fact that my room is in an attic with a roof window and is of a limited size. The position of the bed could not enable me to follow the orientation of sacredness. As a result, in the first months of living in this flat, I could

never sleep well and often had nightmares. Nevertheless, I was finally able to adapt behaviourally after several months.

Another interesting fact came from Sueca when he studied in Newcastle. Most Balinese accept the opinion that *aling-aling* (a barrier wall behind an entrance gate) protects the occupants from negative energy from outside the house. This energy is destroyed by fire in the *paon* (kitchen), so that it does not interfere with the occupants. For this reason, in the spatial structure of the Balinese house, the *paon* is placed at the front and close to the *lawang* (site entrance point): see Figure 4.7. Thus, Sueca placed a wardrobe behind the door of his room as a barrier from outside negative energy.

Bringing a *pelangkiran* (a sacred shelf or a mini altar) and a specific calendar from Bali to abroad are common actions for Balinese diaspora. They hang this shelf on the wall in the position of *kaja-kangin* (the north-east) of the room as the most sacred orientation. The shelf is analogous to *padmasana*, a shrine for God and ancestor worship. They are not able to pray in the room or use incense, flowers, seeds and water as the ingredients of processions. Alarm systems in the room will detect the smoke of burning incense. The smoke of burned incense while praying is believed to lead the mind to *Swah Loka* (the upper or sacred world). Nevertheless, they uphold *Tri Pramana* (the dictum of 'place-time-situation'), so the ritual procession can be simplified through meditating, sitting cross-legged on the floor while facing the most sacred orientation towards the sunrise and uttering the holy verses in the heart. Section 3.3.5 also explains the experience of my parents. Even though they now live on another island, my parents built family shrines in the house in dedication to the lives of the ancestors. In the main belief system of the Balinese, the ancestors are perceived to be the *immaterial parents* who lead them the right way during their lifetime. Whilst conducting ancestral ceremonies in the house of origin, they pass the prayer from where they live through meditation. These are some of the behavioural responses of the Balinese diaspora to maintain spiritual connections with the home.

The above is connected to the solar system, the scientific knowledge of the universe. All planets work under the force of gravity of the sun; the moon is also strongly affected by the gravity of the Earth. All elements of the solar system revolve around the centre of gravity. This system is analogous to the role of the house of origin for the Balinese. It is like the strong relationship between the earth and the moon as a satellite in the solar system.

Dedication to the ancestors who are inherent in their family house has always been done by this society wherever they live, even overseas. The house of origin in the *kampung* (original village) is the main home, whereas the current occupied house is the secondary one (see Section 6.3.2). This phenomenon clearly explains the cultural bonds of the occupants in low-cost housing. The centre of their spiritual lives is the house of origin. Similar to the solar system, the house of origin is the centre of gravity – in this case, the sun to the planets or the Earth to the moon. The planets, or the moon, are likes the Balinese who live elsewhere in another hemisphere. Meanwhile, the force of gravity represents spiritual dedication to God and the ancestors. As the centre of gravity, the ancestors pass positive energy to *their children* wherever they are.

This terminology supports the ideas of Waterson (1997) who conducted research about the living house in South-East Asia. Waterson (1997:199) argues that *"Ancestors share with deities a position of prime importance in indigenous religions in South-East Asia…"* Therefore, it can be understood why the Balinese respect their ancestors and make enormous efforts to maintain a spiritual relationship with their house of origin as a *palace* of their ancestors. It is not surprising therefore that, even though some Balinese Hindus have converted to other religions, they still appreciate the role of the ancestors in their lives and perform some rituals to dedicate their lives to their immaterial parents.

7.1.6 Cultural Investment

Tipple (2000) suggests that housing transformation can be seen through the actions of the occupants in accordance with the house as a capital investment, either in light of communicating their wealth and self-identity or a future asset. However, exploration in urban dwellings in Bali noticeably illustrates a different view.

Sueca (2003) has disclosed that there are many contributory factors that influence why some households transform while others do not, and how they modify their dwellings. He also identifies household and physical characteristics of the dwellings as influential factors. Here, life-cycle events play an important role in housing consumption. It is important to bear in mind, however, that every case is different, whether slightly or significantly, from all other cases.

In addition, these investigations found that culture is a predominant factor in transformation. The findings in this study strongly support Rapoport's (1969) arguments when he hypothesizes that culture is the most important factor in housing formation, while other aspects such as economy, climate, method of construction, technology, materials, etc., are modifying or secondary factors. Chapter 6 clearly explains that, among the indicators of socio-cultural variables, religion-related aspects of lifestyle are an essential influence upon house form, guiding how houses should be transformed. The function of the house as a ritual site has led transformers to conserve the physical core culture of Bali, even in very high-density residential areas such as Denpasar. The rapid socio-cultural changes experienced by the Balinese are reflected in their transformed spatial configurations. This study supports the argument that there is a link between social structure and spatial configuration (Kent, 1990).

In the Western world, the house commonly functions as a dwelling place and becomes a capital asset for the occupants, whereas Balinese houses are not always primarily, or even at all, a place of residence (Waterson, 1997:43). Even though all parts of the traditional Balinese house are important as places of origin for the kin groups, some places may be left uninhabited and must not be allowed to disappear. Much effort is put into maintaining these unoccupied buildings. Additionally, the occupants pay much attention to preserving their socio-cultural lives and all relevant philosophical values that represent the ordering system of the house. Cultural practices in their home activities differ from other ethnic groups in terms of space, time, and socio-cultural setting.

For the Balinese, the traditional houses is a cultural asset that has spiritual dimensions. This asset should be maintained and cannot be sold. Cultural investment is essential for them, not only in public housing, but also in architect-designed houses. This phenomenon includes cultural conservation and development. In Bali, culture is analogous to one side of a coin and cannot be separated from the economic motives on the other. Nevertheless, the influence of globalisation and modernisation in many aspects of life has made the Balinese adopt new cultural values. Cultural transformation and integration is inevitable. It can be understood that culture is an important asset and future investment for this ethnic group. In light of this fact, I fully support Sueca's (2003) assertion that culture is an important determinant in housing transformation in Bali.

7.1.7 The On-going Process of Cultural Consolidation

The analytical chapters discussed the idea that the Balinese house observably exposes a specific identity, both of the individual and ethnic group, through several cultural features, such as building ornamentations and materials, building form and style, main gate, home activities, etc. Sueca (2003:275) states that *"Households have never been isolated subjects but interact in the larger community, sharing values and norms."* Housing transformation reveals how the occupants continually adopt new ideas and values through globalisation and integrate these values with the old tradition. Interestingly, the process of integration occurs without conflict and this process even enhances the local tradition. Additionally, Balinese culture that has been adopted as the national identity through the tourism industry has undoubtedly inspired the public awareness to preserve and develop local culture and traditions.

It can be noted from the field that the current study supports the phenomenon discovered by Sueca in 2003, namely that there is a continual process of cultural consolidation, and more interestingly, that the occupants in traditional dwellings attempt to adopt modernity in buildings and domestic activities. Modern pavilions were designed and built to replace old compounds. Many-separate rooms with specific functions have been realised, such as the dining room, leisure room, living room, carport or garage, etc. The building's appearance has taken on more windows and doors of larger size. Building construction also applies modern structures with concrete columns and manufactured materials.

Meanwhile, in contrast, the occupants who live in low-cost housing attempt to implement local traditions in some contexts, such as building construction, house layout, hierarchy of space, the process of inhabiting, etc. Increasing family income and education levels enable them to appreciate traditional local values and offer many opportunities to realise those traditions. As a result, the standard of this type of dwelling gradually changes from standardised national housing towards 'Balinese style". Religious and cultural norms still strongly guide the use of space and the behavioural settings. Thus, both new ideas and old values interplay in a dynamic process in order to give rise to a new culture. Housing transformation obviously reflects this process. Cultural transition will adopt new values, while the features of local tradition are conserved. This consolidation may be an immeasurable process as long as the occupants order their dwellings in light of space, time, and socio-cultural setting.

7.2 Implications of the Findings: between Theory and Practice

7.2.1 Developing the Ideas of Rapoport: Cultural Elements

The process of culture change and related multi-variable changes to the house is dynamic. It is important to bear in mind that identification of persisting core traditional elements, as well as the disappearing and newly introduced elements in a house over time is needed in order to establish a baseline for the traditional environment (Rapoport and Hardie, 1991:42). For this reason, a starting point in the past can be established and house changes can be traced in a specific timeframe. The ideas of Rapoport (1983) about cultural elements and supportive design are one way of approaching this discussion.

This exploration intends to identify and differentiate between some of the elements of socio-cultural lives that are essential to the identity of the Balinese house and to its continuity. Rapoport and Hardie (1991:37) called these elements *the core elements* of a traditional environment. Furthermore, there also needs to be an exploration of which parts of culture could disappear or be replaced by new, highly valued elements, *the peripheral elements*. The peripheral elements are more susceptible to change, whereas core elements are less likely to change. Findings show the core elements are not only essential for identity, but are also non-negotiable and required elements in Balinese houses. Meanwhile, the peripheral elements are more adaptable and flexible depending on the circumstances of the occupant(s).

From the cases in Bali, it can be observed that traditional houses have gradually changed and seem to be more modern. In contrast, because of the limited space, low-cost houses have changed more. In some cases, wealthy families tend to return to a more traditional style. The analysis in Chapter 6 describes the socio-cultural lives of the Balinese and associated changes within the house. In order to identify and understand these changes, two things should be considered. Firstly, the changed house has a reduced set of characteristics consistent with the core elements of the culture. This is what remains of the traditional environment. Secondly, the new elements in both the house and the culture can be determined. Three sets of the above elements can be identified in Table 7.1.

From Table 7.1, it can be seen that Rapoport's theoretical concept can be applied in this context. Some aspects/sub aspects of the socio-cultural lives of the Balinese – ritual activities, house orientation, the higher elevation for the sacred domain, the importance of the sacred spheres, home sanctification – are identified as the core elements that provide a constancy of the expression of identity. Meanwhile, other sub aspects of those are peripheral elements that are more negotiable. As for the core, these elements are smaller than peripheral elements, possibly almost insignificant over the next 10-20 years or even longer because the Balinese are pragmatic and negotiate the changes time after time. The new elements could be peripheral elements in the future since most Balinese can accept these values due to the fact that they are more relevant to the circumstance.

Table 7.1 Three sets of socio-cultural elements of Balinese domestic lives in 2013

Socio-cultural Lives	Sub Aspects of the Socio-cultural Lives	Tracing the change (over ten years)		
		Core	Peripheral	New
Domestic Life				
Ritual activities	Daily praying and occasional ritual procession	●		
Daily activities	Cooking and eating		●	
	Sleeping arrangement		●	
	Social interaction and leisure		●	
Inhabiting Process				
Hierarchy of space and orientation: the importance of cardinal orientations	The meaning of *nista* (the most profane area)		●	
	Determining the sacred orientation of the house	●		
	Sleeping position		●	
	The higher elevation for the sacred domain	●		
	Building appearance		●	
Sacred and profane spaces: expression of the navel of the universe	The importance of the sacred spheres	●		
	The sacredness of *bale daja* (the north pavilion)		●	
	The meaning of *natah umah* (inner house yard)		●	
	The function of *lumbung* (granary)		●	
	The sacredness of *paon* (kitchen)		●	
Home-making	Social acceptance and personal status		●	
	Filling-home		●	
	Home sanctification	●		
Hybridisation				
Tendency for nuclear family	The ideas of modern family			●
The prominence of the house	Low-cost housing as house of origin			●
Duplicating of home	Completed family shrines (low-cost housing)			●

It can be argued that the traditional culture has been transformed and manipulated because of cultural consolidation. However, it was found that core elements were still expressed in all areas, even among the wealthy people. In this context of the study, the continuities could be identified more clearly, and their strength and supportiveness could be reinforced in the modern house and house designs. By analysing the house change in two stages, using 2001 as a starting point and 2013 as an end point, the direction of change of the future socio-cultural lives of urban dwellers in Bali can be identified (see Table 7.2). The main consideration in identification of the direction of these changes is global cultural features that have been

brought by globalisation and modernisation. Global culture has shifted the paradigm of the Balinese in many aspects of life, including the way of thinking about house values, meaning, and preferences.

Table 7.2 The direction of change in the socio-cultural elements of urban dwellings in Bali

Socio-cultural Elements	The Past Condition (2001)	The Last Situation (2013)	Future Trends
Core Elements (Continuity)			
Daily praying and occasional ritual procession	▪ House as a ritual site.	▪ House as a ritual site.	▪ House as a ritual site.
Determining the sacred orientation of the house	▪ Following cardinal orientations or street.	▪ Following cardinal orientations or street.	▪ Following cardinal orientations or street.
The higher elevation for the sacred domain	▪ Different levels to distinguish sacred from profane domains	▪ Different levels to distinguish sacred from profane domains.	▪ Different levels to distinguish sacred from profane domains.
The importance of the sacred spheres	▪ Providing family shrines	▪ Providing family shrines	▪ Providing family shrines
Home sanctification	▪ Giving a 'life' to the house	▪ Giving a 'life' to the house	▪ Giving a 'life' to the house
Peripheral Elements (Change)			
Traditional cooking style and informal eating	▪ Kitchen with old style of cooking (stove, firewood) ▪ Informal eating	▪ Kitchen with modern style of cooking ▪ Informal and formal eating	▪ Kitchen with modern style of cooking ▪ Daily formal eating ▪ Informal eating: traditional ceremonies
Sleeping arrangement	▪ Outdoor sleeping (sons) and indoor sleeping with relatives (daughters)	▪ Each child needs an enclosed bedroom (individual)	▪ Each child needs an enclosed bedroom (individual)
Informal social interaction and leisure	▪ Informal and formal social interaction	▪ Informal and formal social interaction (entertaining visitors and guests)	▪ Formal social interaction (entertaining visitors) ▪ Informal social interaction (entertaining guests)
The meaning of *nista* (the most profane area)	▪ The most profane domain	▪ Gradually change to be semi profane (habitable units)	▪ To be semi profane (habitable units)
Sleeping position	▪ Follow the orientation of sacredness	▪ Some people neglect the orientation of sacredness	▪ People gradually ignore the orientation of sacredness
Building appearance	▪ Reflection of human body	▪ Even though the style is more modern, it still implies reflection of human body	▪ Even though the style is more modern, it still implies reflection of human body
The sacredness of *bale daja* (the north pavilion)in traditional houses	▪ The sacred pavilion as a storage for valuable family belongings	▪ Few families still maintain it as a sacred sphere. ▪ Most families change it with economic values.	▪ To be more profane for habitable units and economic activities.

Table 7.2 The direction of change in the socio-cultural elements of urban dwellings in Bali (continued)

Socio-cultural Elements	Past Condition (2001)	The Last Situation (2013)	Future Trends
Peripheral Elements (Change)			
The meaning of *natah umah* (inner house yard)	▪ Centre of domestic life (the centre of balance cosmology of the house).	▪ Still exists in a narrow space and has new function (traditional houses). ▪ Assume leisure/ dining room as a centre of home activities (low-cost housing).	▪ The meaning of *natah umah* gradually changed to be more profane. ▪ The use of *natah umah* could disappear ▪ Assume leisure/ dining room as a centre of home activities (low-cost housing).
The function of *lumbung* (granary)	▪ Original function has disappeared. ▪ Accommodating domestic activities: social interactions and leisure, preparing the offerings.	▪ New functions: bedroom, holy room. ▪ For wealthy families, granary has aesthetic value.	▪ Original function will be totally changed to be more profane and has aesthetic value
The sacredness of *paon* (kitchen)	▪ Kitchen is one of the sacred spaces in habitable units.	▪ Only a few families accept the meaning of kitchen as a sacred sphere.	▪ The use and meaning of kitchen is specified in services area (the most profane) of the habitable units.
Social acceptance and personal status	▪ Material possession	▪ Material possession (consumer goods)	▪ Material possession (consumer goods)
Filling home	▪ Filling home with religious and cultural objects	▪ Filling home with consumer goods, religious and cultural objects	▪ Filling home with consumer goods, religious and cultural objects
New Elements			
The ideas of modern family	▪ Extended families dominate the social structure	▪ Tendency for nuclear families and acceptance for divorced-families (single parent)	▪ Nuclear families and single parent families will become commonplace.
The prominence of the house	▪ Original family house as a primary house. ▪ A few low-cost houses can be secondary houses	▪ Original family house as a primary house. ▪ A few low-cost houses can be primary houses	▪ Both original family house and low-cost housing as a primary house
Completed family shrines (low-cost housing)	▪ Low-cost housing is merely a shelter.	▪ Low-cost housing has been accepted as a ritual site	▪ Low-cost housing is accepted as a ritual site

From the above table, four sub elements – sleeping arrangement, building appearance, filling home and family shrines in low-cost housing – are not expected to change in the future, and hence may become core elements and essential towards reinforcing identity in Balinese houses. This means the building appearance still implies reflection of human body, filling-

home with religious and cultural objects, and duplicating original home through building completed family shrines in low-cost housing. Meanwhile, the requirement of an enclosed bedroom for each child will become more essential in the future, influenced by ideas of individualism from Western culture and the effects of globalisation. Children grow up to be more individual and independent and need their own territory.

Therefore, the above future characteristics provide criteria for making choices among alternatives that are involved in design. These characteristics could inform and guide for designers, architects, planners, and developers in Bali to operate in a way which is sensitive to the people, their values and traditions, and which also incorporates their world. In short, it explores how people integrate new values while maintaining their own culture.

Nevertheless, it should be emphasised here that the process is more important than the product. The process involves analysing a particular situation in creating a design. Rapoport (1983:266) suggests that the process of identifying cultural settings should take precedence over other considerations, including climate, materials, economics, political context, etc. Indeed, even though these are important considerations, they become constraints which will modify or distort the ideal. These are then called *secondary or modifying factors* that are external to the nature of the relationship between people and their dwellings. Importantly, it should be born in mind that designers, architects, planners and developers should respond to people's own situations of culture change in the process of creating a design.

7.2.2 Approaching Supportive Design

From exploration in the field, I conclude that designers of public housing in Bali usually tend to imitate standardised design. Copying produces unsuitable outcomes because it typically involves superficial appearance – physical expression instead of the principles and patterns that cover spatial organisation in the context of lifestyle, social structure and so on. Additionally, copying does not work in new circumstances as the most inappropriate features may be imitated; indeed, the owner-occupiers reject these copies due to their inappropriate meaning or image.

Table 7.1 shows that the house changes in urban dwellings in Bali over ten years have helped to identify which parts of socio-cultural lives preserve continuity and identity for urban dwellings in Bali, which can be negotiated and are amenable to change, and which parts become new elements which need to be considered for integration within the old values. Thus, approaching the future characteristics of three sets of elements provides some criteria that lead to guideline principles for supportive design.

The basis for this argument is needed in order to create a matrix of future characteristics. The ideas of Rapoport (1983:249) have inspired me to consider two major issues involved. Firstly, housing design is considered to be related to providing adequate settings for people. It is a problem solving activity, which must demonstrate an understanding of the nature of the relationship between urban dwellings and the occupants and their interactions. In other words, it is an attempt to support the provision of proper settings for a specific group, in this case is Balinese.

Secondly, sufficient evidence is provided regarding the relevant socio-cultural lives and the time perspective of one period. The evidence can represent the real situation. It should be highlighted that the socio-cultural lives of the Balinese are considered an important determinant in the process of housing transformation. Therefore, it is possible to shape the house settings.

Table 7.2 sets out future criteria for three sets of socio-cultural life elements that can be identified based on the phenomena revealed in this thesis. It might be possible to generalize on those values that are more resistant to change and those which are susceptible to change. In this research, it is useful to develop a matrix that looks at a number of cultural expressions that existed in the past and that related to specific socio-cultural aspects in the lives of the Balinese. The behavioural expressions that arose from domestic lives in the past were noted. Then, the cultural expressions in their home lives were investigated for their usefulness in the present and again behavioural expressions were noted. Briefly, this matrix would encourage the researcher to view the future characteristics and changes as instruments of expression rather than simply documenting the continuity and change: see Table 7.3.

From this matrix, it can be identified that all elements of socio-cultural lives that have a close relationship with the main beliefs will still exist and continue to be key to the identity of the Balinese who live in urban dwellings; this includes ritual activities, house orientation, sacred spheres, home sanctification, and the higher elevation for the sacred domain. Meanwhile, new elements in the current situation, such as the ideas of modern family, the status of low-cost housing as a primary house, and providing complete family shrines, are identified to be peripheral elements in the future. Most Balinese can accept and are familiar with these elements in domestic lives. Some elements tend to disappear and will be replaced with higher value activities. For instance, traditional cooking and informal meetings are likely to gradually change through cooking with a gas cooker in a modern kitchen. The kitchen is no longer a detached building, but is integrated into the main building. Owing to modern life styles and hygiene standards, the Balinese have gradually changed their eating style, from sitting on the floor and eating with their hands to formal eating or sitting at a dining table. A dining room is required in the future house. In addition, from this matrix, other peripheral elements are also identified to disappear in the future include: the meaning of *nista* as the most profane domain, sleeping position, the sacredness of the *bale daja* (the north pavilion) and *paon* (kitchen), the original function of the *lumbung* (granary) and the meaning of *natah umah* (inner house yard).

This matrix is created from exploration of urban dwellings, in both traditional houses and low-cost housing. Obviously, it requires an investigation of both the past and the present expressions that affect specific areas of the socio-cultural lives of the occupants. There are implications here for design more generally. Through these future characteristics, designers, architects and developers can consider these elements when designing public housing.

Table 7.3 A Matrix of the future characteristic of the socio-cultural lives of urban dwellings in Bali

Socio-cultural Elements	Past Condition	Current Situation	Future Characteristic
Daily praying and occasional ritual procession	◆	◆	◆
Determining the sacred orientation of the house	◆	◆	◆
The higher elevation for the sacred domain	◆	◆	◆
The importance of the sacred spheres	◆	◆	◆
Home sanctification	◆	◆	◆
Traditional cooking style and informal eating	◆	◇	◇
Sleeping arrangement (individual)	◇	◇	◇
Informal social interaction and leisure	◇	◇	◇
The meaning of *nista* (the most profane area)	◇	◇	◇
Sleeping position towards the sacred orientation	◇	◇	◇
Building appearance expresses the human body	◇	◇	◇
The sacredness of *bale daja* (the north pavilion)in traditional houses	◆	◇	◇
The meaning of *natah umah* (inner house yard)	◇	◇	◇
The original function of *lumbung* (granary)	◇	◇	◇
The sacredness of *paon* (kitchen)	◆	◇	◇
Social acceptance and personal status through material possessions (consumer goods)	◇	◇	◇
Filling-home with material cultural (consumer goods)		◇	◇
The ideas of modern family		◇	◇
A primary house (low-cost housing)		◇	◇
Completed family shrines (low-cost housing)		◇	◇

Note: ◆ Core element
◇ Peripheral element
◇ New element

Owing to the fact that every cultural setting has different characteristics, this study could facilitate equivalent research in other places. These instruments could be developed to identify specific cultural elements of the house in other cultural settings. Many interesting and useful lessons could also be obtained from other places and ethnic groups in creating general design

guidelines, principles and patterns. Researchers may look at the modified traditional environment in the most remote villages or other settlements to determine the first elements to change. Others can conduct investigations into spontaneous settlements in villages, small towns, provincial cities, big cities or the capital. The method and approach, the problems, the ideas, and the requirements may be similar, but the result could be different.

Ultimately, the development of a body of knowledge developed from the ideas of Rapoport supports architects, designers, developers and planners undertaking analysis in different cultural settings to know which aspects of the socio-cultural lives in houses and settlements should be more particularly investigated. Furthermore, it may enable them to predict which aspects are more likely to be altered or maintained and how to influence housing policy, both at a local and national level.

7.2.3 Responsive Initial Design

> *Housing should perhaps be viewed as an organic process of continual change of both the dwelling and dweller. Actions by the dweller to improve the dwelling so that it responds more precisely to changing needs should be regarded as natural and encouraged. In a social housing context, the concept of completed or finished dwellings is probably erroneous: a completed dwelling rarely exists ... it is always in a state of change, and this change must involve the dweller as the key protagonist.* (Kellett et al., 1993: 8-9)

The above quotation is strongly supported by the findings of this study and inspires the ideas of initial public housing. One lesson from Sueca's (2003) study is that *"owner-occupiers will always extend their original dwellings, but some of them have encountered problems in reaching their ideal image because of the initial design of the property."* As a result, Sueca suggests architects of public housing should consider the cultural propensity to improve house conditions. However, he also adds that relevant issues that should emphasised: the need for flexible housing design and a more responsive process of housing production. This makes sense. Nevertheless, it would be useful if initial designs were examined based on the Balinese nuclear family. Family characteristics are even more important than the size of the house. A couple with two children is a common characteristic of the Balinese young family, therefore, this family type should be used in determining the size of the initial house to support responsive change.

The original design of public housing consists of the rooms for basic human demands, i.e. living room, bedroom, bathroom/toilet, and kitchen. This layout is a typical national design, so there is no space available for shrines. The size of the house depends on the number of bedrooms. In light of the need to accommodate traditional local values, architects should provide an appropriate space for family shrines. The initial design could offer several alternatives for the position of the shrine, not only in the logical orientation (in the northeast), but also possibly towards the street. Accordingly, the initial design will have several possible shrine positions that either fit the cardinal orientations or the building orientation toward the street.

More importantly, the initial design should also provide the house owners many possibilities to anticipate extending the house according to the requirements of the household. Prior to construction, developers could accommodate individual requirements in order to decide the

position of the original dwelling on the plot and spatial arrangement. Therefore, the occupants will have some possibilities to anticipate extension of the house in terms of how and in what ways they will extend.

Sueca (2003) recommends 150m^2 as the minimum standard of plot size for the smallest type of low-cost housing. According to my experience in occupying Type 45m^2 and 110m^2 plot size for six years (see Section 3.3.5.), this size is enough space for a family with one child and a shrine, though there is no possibility here to extend the house horizontally. In view of that, the recommended plot size of 150m^2 is large enough to accommodate the basic dwelling, a shrine and room for horizontal extension. However, it should be noted that this recommended size is fit only for a family with a maximum of two children. Larger plots offer possibilities to extend and encourage the occupants to invest in housing as a capital asset. In many cases, plot size is an important factor in determining the level of extension and Tipple (2000) argues that plots should be sufficiently large and wide enough to permit transformation.

Creating initial designs for low-cost housing would enable us to conduct valuable further research into house form. A further study is needed to produce multi-variant initial designs in accordance with family characteristics and local wisdom. Determining the most sacred spheres for family shrines is one of the core elements in Balinese houses. Design can be also developed for plots that are positioned at intersections or junctions. Therefore, many alternatives of housing layout can be provided for the future owner-occupier to offer them the best option to meet their requirements. Initial design that is responsive to the socio-cultural lives of residents is relevant to the ideas of some experts on this subject (Dovey, 1985; Lawrence, 1983; Rapoport, 1969). Moreover, a varied initial design with a recommend plot size of 150m^2 should deliver options for the best way to extend. This could be analogous to *"a gable roof form"* proposed by Malpezzi et al. (1989:17): using the position of the exit door as a connecting point for new extension space or rooms, a terrace, or an open space which could attract people to use it in some way.

7.2.4 Future Research

Most studies into Balinese houses are more concerned with traditional settlements from anthropological perspectives. Some researchers even studied the characteristics of Balinese architecture in settlements on other islands (Sukadana, 2007; Suwarno, 1994). Several researches focus on spatial organisation, and typo-morphology of the contemporary Balinese houses and their occupants. Sueca's (2003) research starts with changing household structure and characteristics associated with urban housing transformation. The current study carried out a revisiting to Sueca's cases in order to reveal the interconnection between dwellers, houses, and their socio-cultural lives in the process of housing transformation. Through this phenomenon, the continuity and change of the houses across a particular time can be interpreted.

The only way to understand what the occupants need is to investigate what they do in their house in their own way. Accordingly, this study also concerns the process of housing transformation where the occupants realise the needs and requirements, optimise the resources and overcome the constraints; they then implement changes to the house without reference to architects or self-designed housing.

The current study revisited urban dwellings within two circumstances - modified traditional houses and transformed low-cost housing - and it concerned owners who are Balinese Hindus. Rapoport (1983:262) suggests that obtaining a broader picture and more accurate generalisation requires a number of steps for various circumstances in different characteristics and groups: traditional environments, informal settlements in small towns, informal settlements in large cities, original public housing, private housing of modernised groups, or architect-designed houses of elite groups. Future research could explore inter-faith contexts, where the influence of religious practices and worldviews can be attached to spatial configuration.

More detailed results on the complexity of the phenomenon can be accomplished by undertaking more in-depth inquiries to complement and develop the qualitative findings. Therefore, in all cases, an indication will be obtained as to the new elements which emerge in different circumstances, as well as those that remain unchanged or which disappear. It is necessary to identify images and other elements of meaning, to discover priorities in preferences and the elements which involve supportive designs.

Additionally, future research could be developed through continuing investigation of the two points of time in 2001 and 2011 (perhaps in 2021). Then, further longitudinal research could be conducted using a third timeframe, so the links between spatial configuration and house form can be explored and patterns of house change determined through spatial, behavioural and physical aspects. Therefore, these patterns can support the creation of various possible house layouts in the initial design. The theory of architecture segmentation by Kent (1990) could be helpful in this research as a basic theoretical concept in terms of exploring the patterns of house change in the field.

7.2.5 A Reflection at the End of the Journey

> *A journey of a thousand miles begins with a single step*
>
> Confucius, Chinese philosopher, 551-478 BC

The above is a favourite quote. It sounds simple, but sometimes taking the first step is the toughest thing one can do. Once a decision has been made, it is easier because one is already moving forward. This quote accurately reflects the long journey of this study. In this journey, many challenges had to be overcome. It started in defining the research gap between Sueca's work and the current study. Determining the main themes, sub themes, and issues that were explored in the field and choosing an appropriate methodology was the next challenge. The biggest challenge occurred during the investigations in the field in terms of how to approach a sceptical society; however, I finally succeeded in this stage. It can be said that this stage is like *'a single step'* of the long journey of this study. After doing fieldwork, the long journey was continued through organising and analysing data, integrated discussion and exploration of the implications.

As the smallest unit of the built environment, the house is not as simple as I had thought. The house is a complex phenomenon that involves many relevant variables which are multi-disciplinary. Moreover, the house also provides many possibilities for other types of inquiry. The nature of the relationship between the occupants and their home is essentially dynamic.

The meaning of home grows in response to the aspirations and resources of the occupants in a continual process and works in progress over time. As a result, the house is also physically transformed in light of this process. There are dialectical interactions which must be unravelled to understand the notion of home.

This kind of study offers flexibility in selecting the most appropriate methods. It allows qualitative study in the process of inquiry that enables the researcher to be fully involved in the field to get closer to the cases. In-depth interviewing using a story-telling technique is the strength of this study and can be obtained through direct interactions with the interviewees and observations in the field to understand themes and issues. This method is an appropriate strategy for collecting data for an ethnographic approach. Here is *'the power of words'*. The qualitative interviews that supported direct observations, physical mapping, and photographic records, enabled the exploration of the themes and issues from the cases studied in order to develop the findings.

The analysis also enabled the identification of links between people, houses, and socio-cultural factors within the process of housing transformation. Accordingly, the continuity and change of the houses can be interpreted across a particular time frame. This diachronic dimension then supported data analysis to provide an overview of grounded theory. Identifying the main themes and key issues from real-world phenomena in the field supported the ideas of Rapoport (1983:260-261) in relation to change and continuity. Therefore, contribution to wider knowledge is accomplished through revealing the true nature of the relationship between dwellings and occupants and all relevant variables. This is the heart of this study.

From this study, we can also see the significance of cultural aspects in successful housing design. In the case of the house without reference to architects or self-design, cultural features can be more clearly identified and considered in relation to the house. Nevertheless, architects who do not get involved with the culture of the user groups, will inevitably be less responsive to the importance of cultural aspects. It is important to shift the paradigm of architects and architectural education towards more culturally oriented housing design. This study only shows the fact that the application needs more steps, even more than an essential change in paradigm of architectural education, as Rapoport (2000:207) note:

> *Evidence may be rejected because "facts" alone are rarely enough. They are a necessary but not sufficient condition. One needs to change the way in which one sees things. …More important than information is a change in the way designers think, how they see the world, see themselves, see problems and designs, and what they consider to be solutions. This involves a drastic set of changes. In cultural terms, the designer culture needs to be changed…* (Rapoport, 2000:207)

It is important to highlight here, Brink (2014), the Vice-Chancellor of Newcastle University, suggests that *"…the question is not only 'What are we good at?', but also 'What are we good for?'..."* I agree with this suggestion and this moral idea has stimulated the thoughts about what is next. What kinds of beneficial support contribute to the common people and wider knowledge? At the end of this journey, I hope this study can provide valuable ideas that can be developed into practical issues in order to improve the quality of urban dwellings in Denpasar, other cultural settings and other places. The implication, at least, can give other perspectives to designers, architects, developers and planners in providing adequate housing that is responsive to the occupants.

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Appendices

List of Appendices

Appendix A:
In-depth Interview Guidelines

Themes	Issues
The nature of the interactions between the occupants and urban dwellings during the process of transformation	
The occupants' history	**The emergence of the family life-cycle. Record details of:** ▪ Household members (includes relatives and household staff) ▪ Family story (from newly married couple to mature family) ▪ Whether, when a male family member gets married, he moves out of the house or continues living with his wife in the parents' house ▪ Whether the house provides for nuclear or extended living. It is important to provide for two ways of living.
	Informal social institutions. Note information on: ▪ The intensity of the relationship between households and neighbourhood ▪ Kinds of social activities ▪ The role of *bale banjar* for the occupants.
	Economic provisions. Include aspects of: ▪ Job-related occupancy (e.g. government officer, private employer, retired, businessman, other) ▪ Any small business done at home (inside the house or within the plot). The kind of small business ▪ The use of space for income generation.
Housing satisfaction	**Decision to move or improve the house. Include details of:** ▪ House ownership (e.g. owner, owner representative/caretaker, family ownership, renter/tenant) ▪ The occupier's residence prior to this one (i.e. hometown, rented house, family house, public housing, other) ▪ How house came into the occupier's possession (i.e. bought from housing agency, bought from individual, inherited, other) ▪ Advantages and disadvantages of moving or improving the house ▪ The most important aspects of house improvement.
	Constraints on the occupants' choices, including: ▪ Constraints on the occupants in order to improve the house (e.g. cultural attachment, finance and affordability, building regulations, others). ▪ Efforts to minimise the constraints.
Transformation of the house construction	**The motivation to improve. Note:** ▪ Reasons to carry out transformation (e.g. need more rooms, rooms too small, house too open to the street, quality of the house is poor, spatial arrangement is not appropriate for religious needs, etc.). How to carry this out ▪ Advantages and disadvantages of transformation.
	Methods of transformation (before and after transformation). Record elements of: **1. Alterations and extensions** ▪ The importance of the separation of activities in the house. Give reasons ▪ What should be separated? Kitchen from dining room, kitchen from living room, workplace from residential quarters? Give reasons ▪ The importance of the separation of men and women, children and parents, boys and girls in the house. Give explanation for the criteria to achieve separation

Themes	Issues
Transformation of the house construction	**2. Alterations and extensions at plot level** ▪ Purpose of that plan (e.g. rentable space, own residential use, shop, other). **3. Remodelling/Demolition** ▪ Reasons for demolishing (e.g. commercial values, age of the house, etc.) ▪ Purpose of that activity (e.g. rentable space, own residential use, shop, other) **4. The use of different spaces (before and after transformation), including whether occupants are:** ▪ Satisfied or dissatisfied with the cooking arrangement ▪ Sharing a room between males and females in the family ▪ Satisfied or dissatisfied with sleeping arrangements for family (before and after transformation) ▪ Satisfied or dissatisfied with the bathing and toilet area in the house **5. Use of space at plot level, e.g.** ▪ The outdoor space is defined and used over time ▪ Any agreements between neighbours on the use of private space.
Home quality	**Home preferences, recording details of:** ▪ The experience of home as a primary territory and exclusive control being a central and highly significant aspect for the owner ▪ Feeling a sense of belonging and stimulating a feeling of continuity, stability and permanence ▪ Control of space and having privacy, the possibility of freedom ▪ Self-expression and personal identity in the building's appearance, meaningful places ▪ The occupants' interpersonal relationships with others (e.g. neighbourhood, workplace, school, other points of social networks).
	Opinion about current condition of the house, such as: ▪ What do you like most in this house? Give reasons ▪ What do you consider to be poor in this house? Give reasons ▪ Reasons for living in the current house.
Future needs and expectations	**Opinion about the ideal house:** ▪ What are your views on the ideal house? Specify them (e.g. the shrine should be put in the north-east direction, all Hindu people's houses should have a Balinese shrine, inner courtyard is essential part of Balinese house, the house should be anticipated as a space for home-based economic activities, the house should reflect the occupants' own ideas, intimacy with environment, etc.).
	Expectations of the occupants, including: ▪ The economic potential of this house ▪ Whether some parts of house needed urgent improvement. Give reasons ▪ The problems implicit in transformation.
The process of transformation articulates specific aspects of the socio-cultural lives of the occupants	
Domestic life	**Religious activities. Provide details of :** ▪ Cosmological perspective and belief in the influence of ancestors on those living on earth ▪ Kinds of traditional ceremonies that are celebrated in the house (e.g. *metatah*, *pawiwahan*, *otonan*, *memukur,* others) ▪ Daily and occasional praying: preparing offerings, cooking, other.
	Daily activities, such as: **1. Cooking and eating** ▪ Cooking as a cultural variable. Give details ▪ Kinds of food preparation. Where should it be prepared? Give reasons.

Themes	Issues
Domestic life	▪ The position of kitchen and dining room. Purpose and disadvantages of that position. **2. Sleeping arrangements** ▪ The meaning of sleep for Balinese. How important are age and sex in sleeping arrangements? ▪ Purpose of that activity (individual or collective sleeping, indoor or outdoor), e.g. sleeping room/pavilion, sleeping room for visitors, others. ▪ Other functions of bedroom (e.g. studying, storing paraphernalia, other). **3. Social interactions and leisure** ▪ Purpose of these activities. Where they should be done? ▪ Space consciousness. Give explanation ▪ The position of the guest room and leisure room within spatial organisation of the house ▪ Playground for children.
Inhabiting the socio-cultural settings and spatial order	**Hierarchy of spaces and orientations. Record information about:** ▪ Efforts to culturally maintain the spatial order (e.g.. hierarchy of space, the position of *Utama, Madya*, and *Nista*; house orientation, the sleeping position, others) ▪ The meaning of cardinal orientation. Shifted paradigm? Give explanations ▪ Maintaining the sacred needs (e.g. building/space/room/pavilion/area) ▪ Spatial organisation due to the sacred needs (i.e. profane activities, house plans, etc.).
	Physical appearance: ▪ Physical characteristics of the Balinese house (i.e. building form, building image, building materials, main gate, walls, ornamentation, and other semi-fixed features, other).
	Cultural values and belief systems: ▪ Importance and influences of rituals and beliefs on living conditions ▪ Balinese patriarchal system and individual circumstances ▪ Hierarchy of living relationships. Give explanation ▪ The importance of the customary village: Where is it? What is the role of this village in the social system?
Hybridisation: emergence of a new identity	**From extended to nuclear family. Note details of:** ▪ The changing family structure and how it affects spatial structure of the hous ▪ The trend of nuclear and single parent families
	From shelter to becoming a home. Note: ▪ Link between transformation and expression of cultural attachment, in particular low-cost housing (e.g. symbolic religious ceremonies, spatial organization, socially ordered, attachment of symbolic meaning to the house, etc.).
	The role of *house of origin* for (migrant) urban Balinese, in particular: ▪ The location of hometown/original village (on site, in other part of Denpasar, or outside of Denpasar) ▪ Choice of whether to conduct social ceremonies and celebrations either in this house or hometown/original village.

Appendix B:

Physical Mapping and Observation Guidelines

Themes	Issues
The decision to improve	
Expanding the house	**House size** ▪ Size of original plot (m^2) (before and after transformation) ▪ Size of original house (m^2) (before and after transformation)
	Habitable space ▪ Kinds of rooms/pavilions/facilities available in the existing house ▪ Kinds of rooms/pavilions/facilities available in the current house
	Occupancy rates of households ▪ Number of rooms occupied by households (exclude areas used as kitchen, bathroom, store, garage/carport, working places, or veranda). ▪ Number of other occupants living in the house/on the plot and paying rent (tenants) ▪ Number of other occupants living in the house/on the plot and not paying rent (tenants).
How to carry out changes	**Alterations and extensions. Note whether occupants have:** ▪ Changed part of the house (e.g. interior walls, doors, windows, ceiling, roofing materials, and number of rooms) ▪ Created extensions to the house (e.g. additional rooms) ▪ Made modifications to the use of space (e.g. kitchen, bedrooms, pavilion) ▪ Made modifications to the interior walls, thereby changing room sizes ▪ Made other modifications in the house.
	Alterations and extensions at plot level, including: ▪ Plans to construct more buildings/rooms on this plot
	The use of different spaces (before and after transformation), such as: **Cooking and eating. Note:** ▪ How spaces are used for preparing meals (in the same/separate space for cooking only, outside or inside). Preparing the food before cooking ▪ Details of spaces used for washing dishes (outside or inside) ▪ Space for preparing meals, before and after cooking (is space sufficient?) ▪ The experience of food preparation and cooking in terms of use of space ▪ How space is used for eating meals (mostly indoors or outdoors). **Sleeping arrangements. Detail:** ▪ The space where different members of the household sleep (outdoors, indoors). Whether this space is separate from other functions, like cooking, eating, storage ▪ How space is used for rest at midday. **Social interactions. Record:** ▪ The space for different kinds of interactions, either formal or informal, visitors or relatives (outdoors, indoors). Is the use of this space separate from other functions, like eating, leisure, studying, other.
	Use of space at plot level ▪ Determining boundaries for private, semi-private, and communal space. Playing space for children.
	Visitors ▪ Is there room for visitors? Arranging the sleeping area if visitors come to stay overnight.

Detailed information about the house improvements/extension

Respondents	Date of extension	Which rooms have you extended/added?	Who did the work? [1)]	How did you finance the work? [2)]

Notes: 1) Who did the work? (contractor, mason/craftsman, self-help, other)
2) How did you finance the work? (own savings, bank credit, borrowed from relatives, other)

Appendix C:

Transcript of an Interview (Extracts)

The following transcript is an extract from an interview in a traditional house. It has been translated (from Bahasa Indonesia and Bahasa Bali into English) and transcribed by myself. It has also been polished by a professional proof reader.

Name of interviewee : I Nyoman Susila (Pak Nyoman), aged 61
Date of interview : 26 August 2011, 11:00 am–15.10 pm
Place : Banjar Kaja Tengah, Kelurahan Sesetan, South Denpasar

Themes	Evidence/Opinions
Fieldwork 26 August 2011	
Reasons to transform the house	**Dewi:** Whilst walking around your house, I am very curious to know the reasons behind the decision to demolish *bale lantang* and *bale gong...* **Pak Nyoman:** My grandma was a Balinese dancer. She and her group often performed their show in many cities, even overseas. She was also a dance teacher and had many students. So, my grandpa built two open pavilions, *bale lantang* and *bale gong* in the east of *natah. Bale lantang* was for a dancing arena, and the other one was for *sekeha gong*, a group of traditional music instrumentalists. Hmm... After grandma passed away, none of us used the pavilions. We just left them as unused spaces. Over the years, we needed more enclosed spaces for many activities, mainly occasional activities, such as *rahinan*, *odalan sanggah*, *pawiwahan*, *potong gigi*, and so on. At those times, all of our relatives would come and stay for a few days... so both of those unused pavilions were demolished... **Dewi:** How long did it take to carry out this process? **Pak Nyoman:** Actually, my father was unable to afford this process, so my sisters and brothers and I agreed to share the costs. We did it in several steps, and it was finally completed two years ago. The first step was demolishing the pavilions, then changing the position of the small *jineng* with *bale delod*. The next step was moving *sanggah* to the corner, *kaja-kangin*, and building *gedong simpen*. There was no activity for 2-3 years, and we started again by building some compounds in the north-west for habitable spaces. Finally, the last job was to place a big modified *jineng* next to the small one... Uppfff... that was a really big job and took more than six years of the process.
Socio-cultural settings	**Dewi:** In your opinion, how important is the implementation of genius loci in the house? **Pak Nyoman:** Yes, it is very important to conserve these values in the house... mmm... I remember that my father intended to move *sanggah* to the right position and instructed his children always to keep the traditional spatial layout, although housing needs to increase over generations. We built extended compounds, but still followed the rules on where to put the entrance, which places to use for sacred space and profanes areas, sleeping position, and so on. My family adhere to these values, automatically, in order to show respect to God and the ancestors. We believe that it is one of many ways to save and protect my family from bad things.

Themes	Evidences/Opinions
Socio-cultural settings	**Dewi:** Back to the topic of genius loci. What is your opinion about the implementation of *Tri Mandala* in the spatial arrangement? **Pak Nyoman:** Balinese understand the concept of a harmonious life, *Tri Hita Karana*, so spatial layout in the house should follow this concept, part of which is *Parahyangan*, *Pawongan*, and *Palemahan*. Regarding cardinal orientations, we are able to divide the site into three big areas or *Tri Mandala*, which are *Utama*, *Madya*, and *Nista*. We will determine which areas are the most sacred and the most profane on the site in response to the hierarchy of space, so it is easier to put habitable units on the site. This is the way that my great-grandpa arranged some of the compounds in this house. Fortunately, he had this site, which is appropriate for the rule of *Tri Mandala*, so he did not need to modify the spatial layout. Then, my brothers and I, as the next generation, have made great efforts to maintain this rule. In the positioning of new additional compounds, we always considers local values.
Domestic life	**Dewi:** *Ibu Nyoman*, how do you manage domestic life in this house? **Istri Pak Nyoman:** I do daily activities as usual. Daily cooking is in *paon*, but for festivities, we cook some food for *sesajen* outside, in the house yard, as we need more space. Nevertheless, we do not need a specific room for eating. Having a meal can be done in the kitchen, *jineng*, or veranda. The dining room is only used when having formal visitors. **Dewi:** How about religious activity, *Bu*? **Istri Pak Nyoman:** *Mejejahitan* and *metanding banten* are usually done on the kitchen veranda, *jineng*, or front veranda of *bale dangin*. We pray in some temples on festive occasions, so I have to assemble more than two hundred *canang sari* for festivities, excluding *gebogan* and *sesajen*. Nevertheless, I only need the platform of *jineng* for preparing fifty *canang sari* for daily offerings. I like *mejejahitan* and *metanding* in *jineng* because I can put offerings on the platform and set them up while standing. Also, this open compound is positioned near the kitchen, so it is easier for me to take and bring materials from the kitchen. **Dewi:** Do you have any problems with the sleeping arrangements, *Pak*? I see that you have many bedrooms. **Pak Nyoman:** We have a slight problem with sleeping arrangements when all our relatives come and sleep overnight during ceremonies. It is only *bale dangin* that can accommodate them. Children and women are the priority, but the men can sleep in *jineng*, tents, or other open pavilions. On normal days, we have no hassle with sleeping arrangements. This house can be occupied by at least… five visitors.
Home and identity	**Dewi:** A home can express the identity of the occupants. What do you think about this statement? **Pak Nyoman:** Yes, I agree with this idea... For instance, extended family try to maintain the Balinese style in this house. Can you see it while walking around this area? I'll start from the site entrance. We keep the *angkul-angkul* and *lebuh*, then the spatial arrangements and the position of the compounds still follow the concept *Tri Hita Karana*. For building materials and ornaments, we use local brick and natural stone, and put ornaments on the facade... There are wood carvings on the doors, windows, and columns. Likewise, *sanggah*, all shrines were created by following the local style.... Therefore, everybody can see from outside that the owner of this house is Balinese ... I am so proud of it...

Transcript of an Interview
(in Bahasa Indonesia)

The following transcript is an extract of one interview in low-cost housing in Bahasa Indonesia.

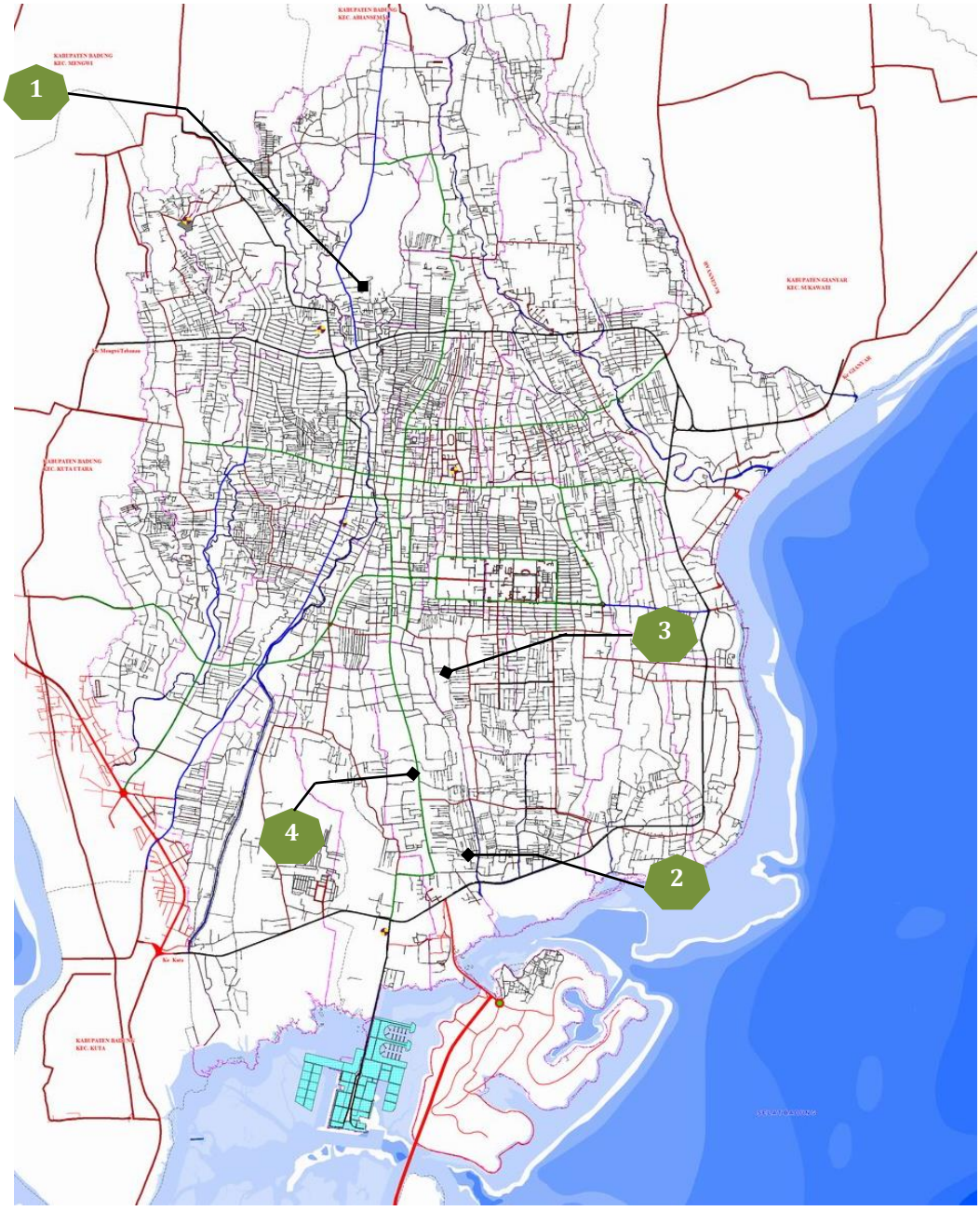
Name of interviewee	:	I Ketut Gunawan (Pak Ketut), aged 39
Date of interview	:	12 August 2011, 03:00–07:15 pm
Household members	:	Married, 1 daughter, 2 sons
Place	:	Graha Pesona, South Denpasar

T h e m e s	Evidence/Opinions
Fieldwork 12 August 2011	
Riwayat rumah	**Dewi:** Setahu saya, kompleks perumahan ini sudah cukup lama dibangun. Kalau tidak salah sekitar tahun 1997, bahkan mungkin sebelumnya. Bagaimana riwayatnya sampai Bapak memutuskan membeli rumah ini dan pindah ke mari? **Pak Ketut:** Setelah menikah, saya tinggal di rumah orang tua saya selama 8 bulan. Lalu bersama istri saya, kami memutuskan untuk hidup mandiri. Saya pindah ke sini tahun 2002. Rumah ini saya beli dari pemilik sebelumnya. Tipe awal 21/98 m^2, ada 1 ruang tidur, 1 ruang tamu, dan 1 kamar mandi. Teras belakang untuk dapur, halaman tersisa untuk parkir sepeda motor dan jemur cucian… **Istri Pak Ketut:** Saya terbayang waktu itu. Rumah kami sangat sempit, kalau kedatangan keluarga dari kampung, suami saya tidur di ruang tamu, pakai kasur lipat… Yah, hidup prihatin, maklum rumah tangga baru…
Keputusan untuk memperluas rumah	**Dewi:** Saya memperhatikan dari rumah-rumah sederhana yang sudah saya kunjungi, ada kecenderungan penghuni memutuskan untuk memperluas rumahnya daripada pindah ke tempat yang baru. Bagaimana pandangan Bapak? **Pak Ketut:** Pindah rumah? Hmm… Tidak terpikirkan saat ini yah?! Itu perlu biaya yang tidak sedikit, beli rumah dan tanah, belum lagi harga tanah sekarang semakin hari semakin mahal… *care nak Bali ngorang, ngudiang mekutang pes liyu…* Ketika anak pertama saya lahir, bertambah besar, dan anak kedua dan ketiga menyusul. Belum lagi istri saya punya usaha pembuatan *banten*. Pesanan semakin hari semakin banyak. Semua perlu ruang. Akhirnya saya pinjam uang di bank. Saya bisa mengerti mengapa orang-orang lebih memilih memperluas rumah daripada beli rumah baru. Saya rasa masalahnya ada di *pan dane*… uang.
Efek transformasi rumah	**Dewi:** Bagaimana perasaan Bapak setelah memperluas rumah? **Pak Ketut:** Ya, tentunya saya dan keluarga senang. Ketiga anak saya senang karena punya ruang tidur sendiri. Ada ruang makan, teras depan untuk ngobrol sore-sore dengan istri dan anak-anak. Kalau malam untuk parkir sepeda motor. Istri saya lebih senang karena punya dapur tertutup. Dulu, waktu dapur masih di teras belakang, dapur terbuka, kucing tetangga sering membawa lari masakan istri saya hahaha…

Themes	Evidence/Opinions
Penempatan area sakral dan profan	**Dewi:** Oya, Pak, ini tentang *sanggah*, akhirnya Bapak membangun *sanggah* di atas. Bagaimana ceritanya? **Pak Ketut:** Waktu memperluas rumah, saya sudah memikirkan bagaimana dengan *sanggah*. Karena perluasan rumah menghabiskan semua halaman, yang tersisa hanya untuk taman, Saya tidak mungkin menempatkan *sanggah* di tanah yang tersisa itu, akhirnya saya putuskan membuat *sanggah* di atas. Dua pelinggih saja, *padmasari* dan *penunggun karang*. *Sanggah* di atas membuat kami sekeluarga merasa nyaman secara *skala* dan *niskala*, kami tidak mencampur adukkan antara kegiatan duniawi sehari-hari dengan tempat pemujaan ke *Sang Hyang Widhi* dan leluhur sebagai areal yang memiliki hirarki kesucian tertinggi.
Posisi kepala saat tidur	**Dewi:** Bagaimana dengan posisi tidur? Apa masih mengikuti aturan tradisi? **Pak Ketut:** Ya masih. Saya memposisikan tempat tidur, posisi kepala di arah utara atau timur. Kalau tidak sengaja salah posisi tidur, kepala *tiyange selempuyeng*… *inguh*… pusing dan gelisah seharian. Ada rasa bersalah karena kadang seperti sudah membelakangi areal suci. **Istri Pak Ketut:** Sebisa mungkin kami sekeluarga mengikuti aturan-aturan tradisi. Seperti waktu membangun sanggah di atas ini, suami saya beberapa kali konsultasi ke *pemangku* dan *undagi*. Saya buat banten untuk beberapa upacara, supaya kami sekeluarga selamat, selalu sehat, jauh dari mara bahaya.
Alasan untuk menetap di rumah sekarang	**Dewi:** Bapak sekeluarga betah tinggal di sini? **Pak Ketut:** Kami sekeluarga betah di sini. Memang cukup jauh dari tempat kerja saya, tapi tidak apa-apa. Tetangga baik semua, kami sebulan sekali gotong-royong membersihkan lingkungan sekitar. **Dewi:** Bagaimana dengan adik? Senang tinggal di sini? **Anak Pak Ketut:** Seneng sekali, Mbok… sekolah dekat, teman-teman sekolah dan teman bermain juga di sekitar sini, tetangga sendiri. Sekitar sini ada lapangan, kita bisa main bola, sepeda, dan layang-layang di sana. **Istri Pak Ketut:** Sekolah anak-anak tidak jauh dari sini. Kalau Putu, saya antar jemput karena sekolahnya jauh. Kadek dan Komang, sekolahnya tidak jauh, bisa berangkat sendiri dengan teman-temannya. Pasar pagi juga dekat, ada puskesmas. Rasanya sudah nyaman sekali, *kanggoang*…
Pendapat tentang rumah impian	**Dewi:** Ini pertanyaan terakhir saya, bagaimana impian Bapak dan Ibu tentang rumah impian. Pasti punya kan? **Pak Ketut:** Ahh… rumah impian? Yah, dalam bayangan saya, rumahnya luas. Saya suka berkebun, yah ada halamannya untuk bercocok tanam dan kolan ikan. Jauh dari keramaian. Hanya, saya tidak tahu, itu bisa tercapai apa tidak. **Istri Pak Ketut:** Pertanyaan susah ini Mbok Dewi… Dengan kondisi kami seperti ini, rasanya tidak terbayang punya rumah impian. Jawaban saya sama dengan Bapak. Saya ingin punya rumah besar, jadi bisa menata rumah dengan lebih baik. Kita orang Bali, inginnya punya rumah style Bali juga, ada *angkul-angkul* dan *jineng*. Maksudnya, rumah impian itu nanti bisa mewujudkan semua keinginan-keinginan kami sekeluarga, bisa jadi identitas, *tiyang niki nak Bali*…

Appendix D:

Map of Denpasar



1 Permata Anyar, North Denpasar
2 Graha Pesona, South Denpasar
3 Pesona Pancoran, South Denpasar
4 Banjar Kaja Tengah, Kelurahan Sesetan (South Denpasar)

The map showing the location of the study areas

Appendix E:
List of Respondents

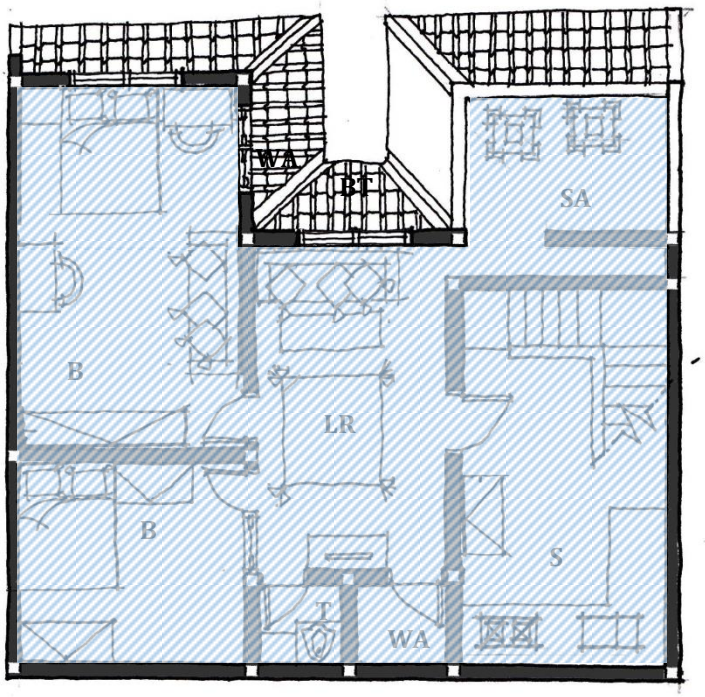
Case Number	Respondents	Age	Gender	Original House Type (m^2)	Date of Interview	Note
Permata Anyar, North Denpasar						
1	Komang Budi Artawan	61	M	45	29/07/11	Nuclear family
2	I Made Gede Sudiartha	57	M	45	16/07/11	
3	I Ketut Sukandra	71	M	45	18/07/11	
4	I Wayan Sudri	51	F	21	20/08/11	
5	I Ketut Sudama	38	M	36	26/08/11	
6	Tjokorda Made Atmaja	58	M	36	29/07/11	
7	I Wayan Sugiatma	54	M	25	29/07/11	
8	Made Mandika	54	M	45	30/08/11	
9	I Made Sandy Aryawan	53	M	45	29/08/11	
10	I Wayan Sueta Antara	39	M	36	12/08/11	
11	I Putu Wijana	56	M	45	12/08/11	
12	Kadek Dwi Payana	44	M	36	09/09/11	
Graha Pesona, South Denpasar						
13	I Wayan Sumerta	49	M	36	21/08/11	Nuclear family
14	I Ketut Tomi	34	M	36	19/08/11	
15	I Nengah Tangkas Swacita	46	M	21	21/08/11	
16	I Ketut Artayasa	35	M	21	23/08/11	
17	I Ketut Adianta	38	M	21	23/08/11	
Pesona Pancoran, South Denpasar						
18	I Gede Ardana	35	M	36	26/08/11	Nuclear family
19	Gusti Ngurah Meryana	44	M	36	15/08/11	
20	I Ketut Gunawan	39	M	36	12/08/11	
Banjar Kaja Tengah, Kelurahan Sesetan, South Denpasar						
21	Ketut Sudana	49	M	Traditional houses	07/07/11	Extended family
22	I Made Nichi	59	M		26/08/11	
23	I Nyoman Susila	61	M		26/08/11	
24	Made Riady	67	M		24/08/11	
25	Ketut Gede Pariasa	55	M		04/09/11	
26	I Gusti Ngurah Oka Putra	59	M		28/07/11	
27	I Wayan Sandiasa	68	M		28/07/11	
28	I Made Widana	41	M		12/08/11	
29	Ketut Pantyasa	61	M		02/09/11	
30	Gede Wirawan	65	M		03/09/11	
31	I Made Karmaya	69	M		12/08/11	
32	Putu Cidra	63	M		12/08/11	
33	Made Parwana	59	M		12/08/11	
34	Wayan Maglug	49	M		04/09/11	
35	Putu Gede Kertha	60	M		12/08/11	

Appendix F:

House Plans of Case Studies

The following plans are of thirty-five urban dwellings in four areas in Denpasar that had been previously investigated from June–September 2011 and were revisited in March-April 2013 by the current researcher. The first twelve dwellings are located in Permata Anyar (North Denpasar); five of the houses are in Graha Pesona (South Denpasar), and three are in Pesona Pancoran (South Denpasar). In addition, fifteen traditional compounds were also investigated in Banjar Kaja Tengah, Kelurahan Sesetan (South Denpasar).

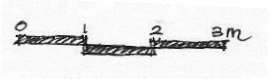
I Kadek Dwi Yuda's dwelling

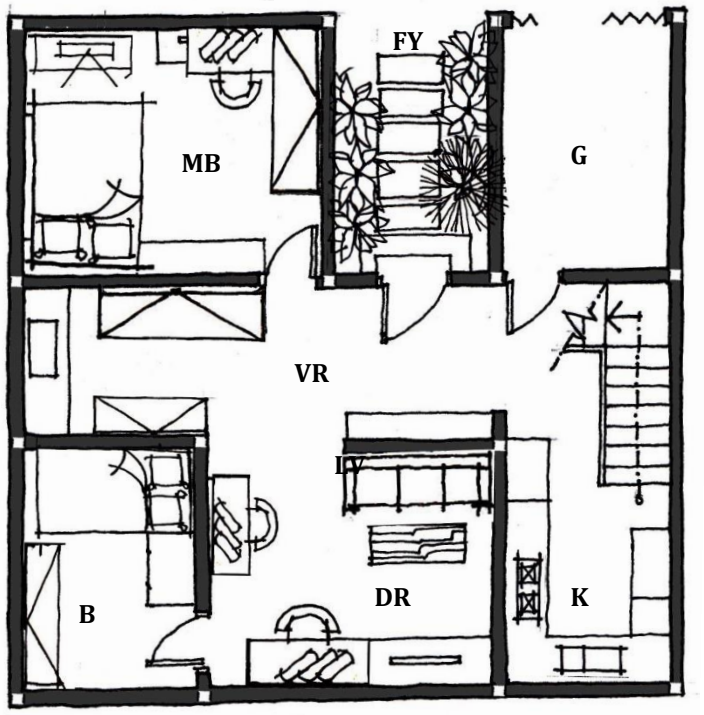


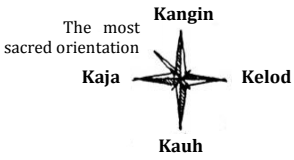
B Bedroom
BT Bathroom and toilet
DR Dining room
FY Front yard
G Garage
K Kitchen
MB Master bedroom
S Storage
SA Shrines area *(Sanggah Alit)*
VR Visitor reception room
WA Washing area

First Floor

Transformed House (2011)





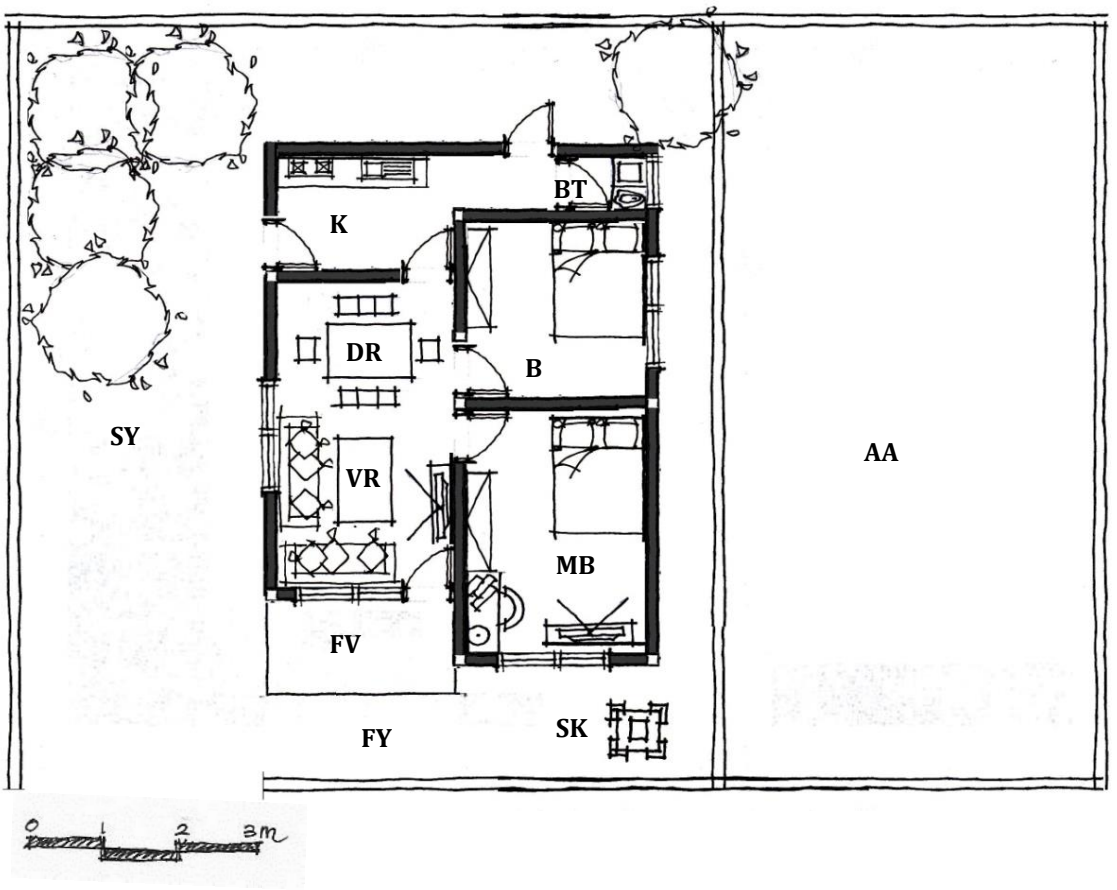


Plot of existing house

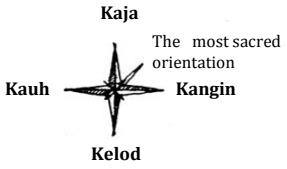
Ground Floor

Existing House (2001)

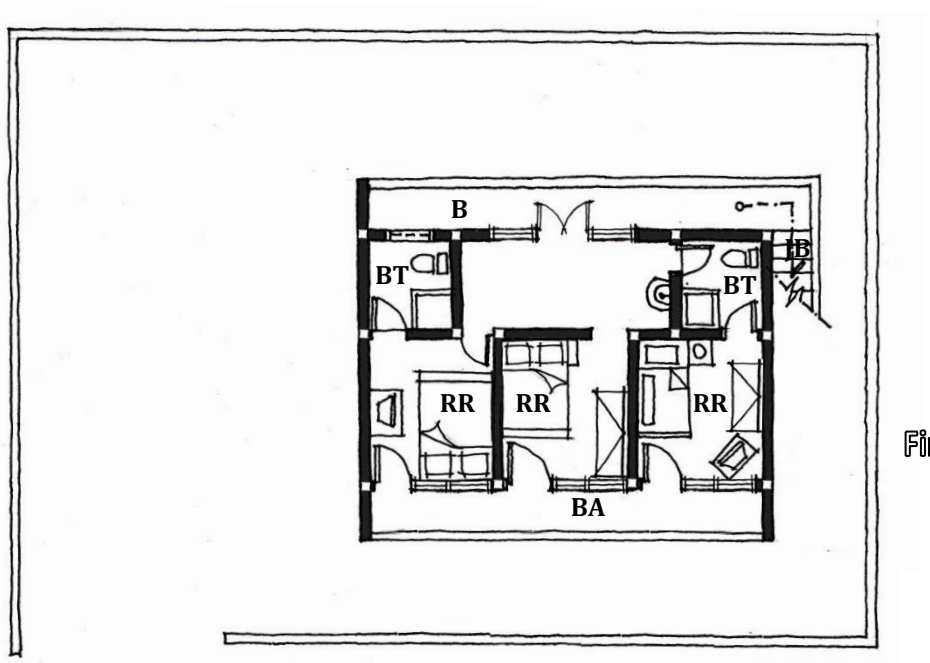
Komang Budi Artawan's dwelling



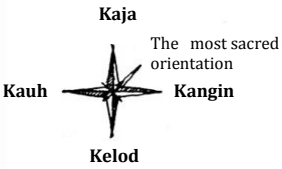
AA Adjacent area
B Bedroom
BT Bathroom and toilet
DR Dining room
FV Front veranda
FY Front yard
K Kitchen
MB Master bedroom
SK Shrine *(Penunggun karang)*
SY Side yard
VR Visitor reception room

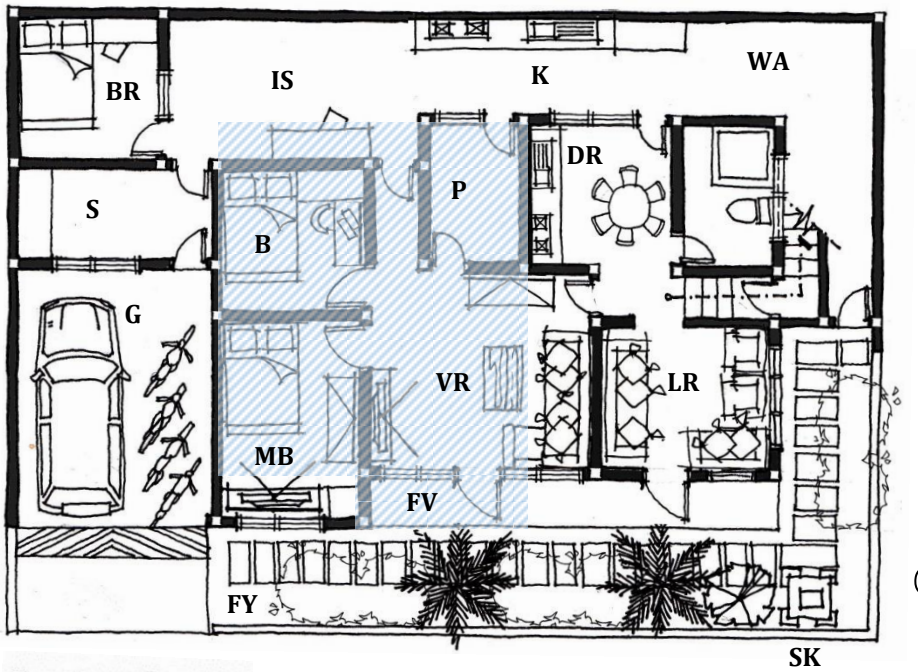


Existing House (2001)



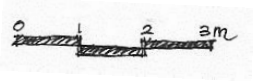
First Floor





Plot of existing house

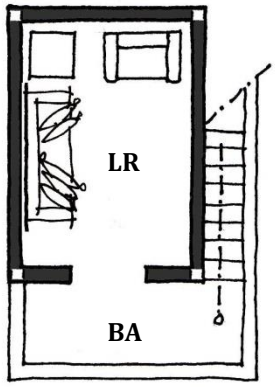
Ground Floor



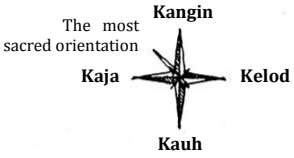
Transformed House (2011)

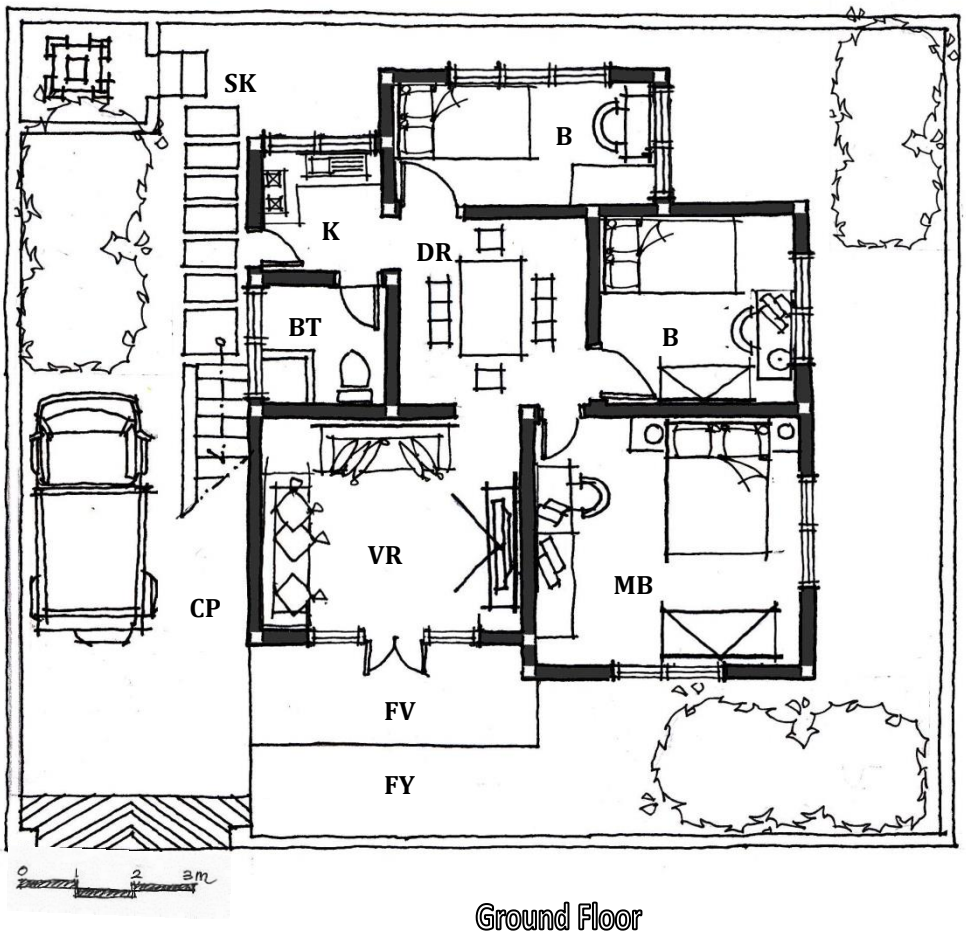
B	Bedroom	**FY**	Front yard	**P**	Pantry
BA	Balcony	**G**	Garage	**RR**	Rented room
BR	Bedroom (for household staff)	**IS**	Ironing space	**S**	Storage
BT	Bathroom and toilet	**K**	Kitchen	**SK**	Shrine *(Penunggung karang)*
DR	Dining room	**LR**	Leisure room	**VR**	Visitor reception room
FV	Front veranda	**MB**	Master bedroom	**WA**	Washing area

Made Gede Sudiartha's dwelling



First Floor

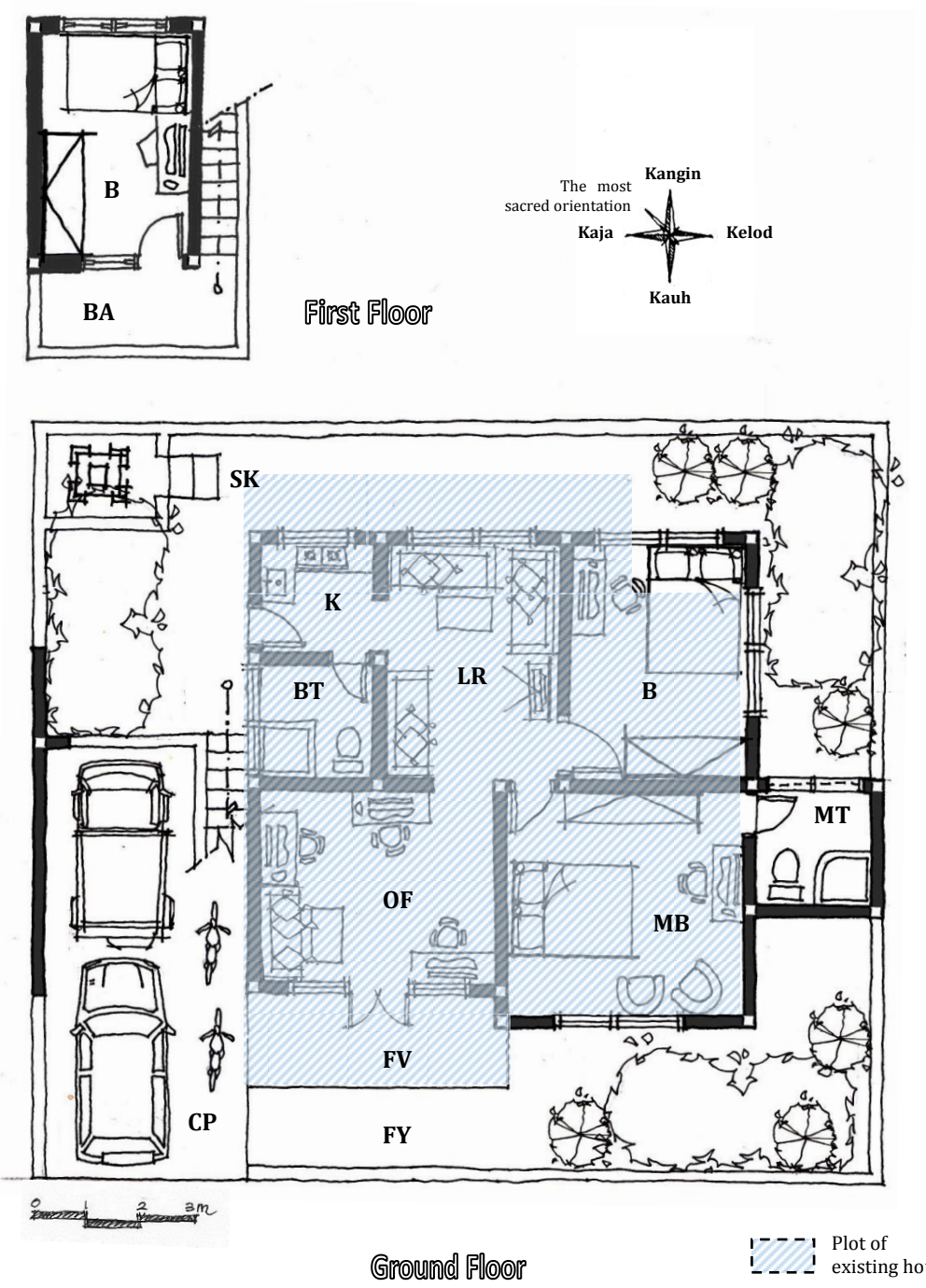




Ground Floor

Existing House (2001)

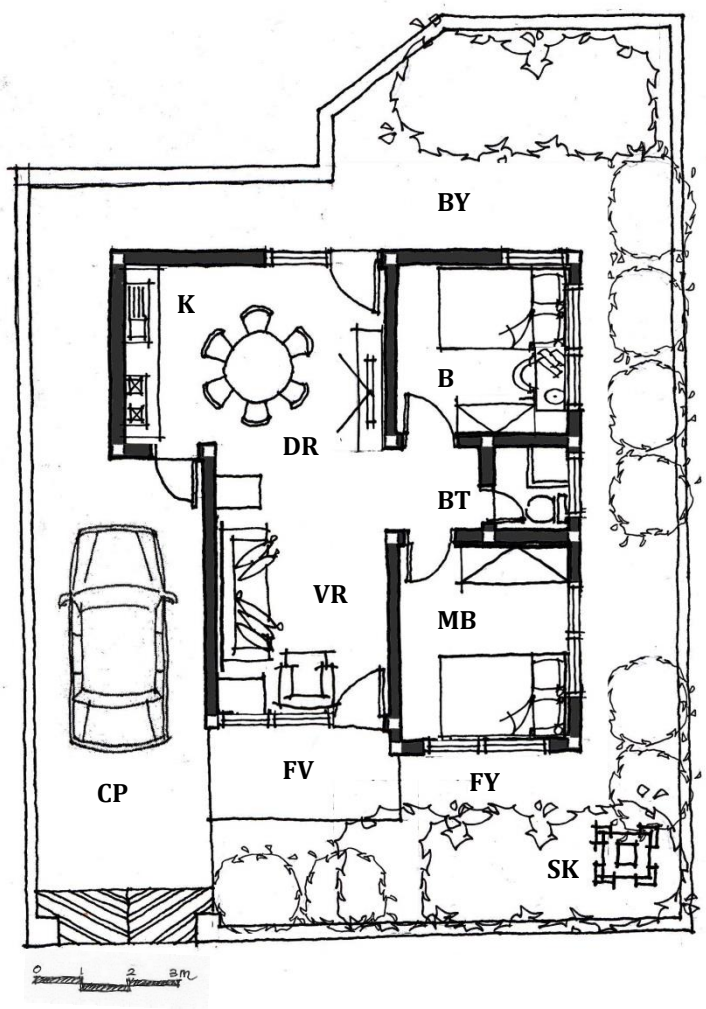
B	Bedroom	**DR**	Dining room	**LR**	Leisure room
BA	Balcony	**FV**	Front veranda	**MB**	Master bedroom
BT	Bathroom and toilet	**FY**	Front yard	**SK**	Shrine *(Penunggun karang)*
CP	Carport	**K**	Kitchen	**VR**	Visitor reception room

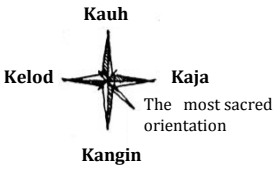


Transformed House (2011)

B Bedroom
BA Balcony
BT Bathroom and toilet
CP Carport
FV Front veranda
FY Front yard
K Kitchen
MB Master bedroom
LR Leisure room
MT Master bathroom
OF Office (architect consultant)
SK Shrine *(Penunggun Karang)*

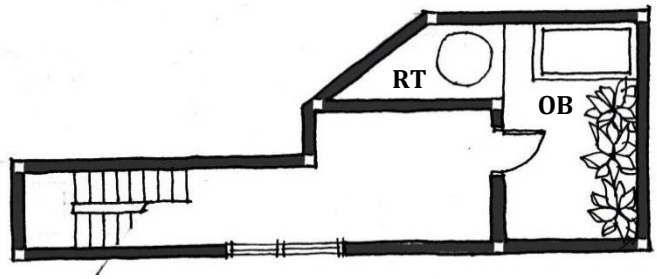
I Ketut Sukandra's dwelling



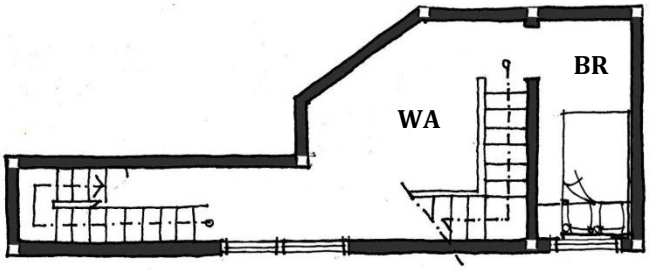


B Bedroom
BT Bathroom and toilet
BY Back yard
CP Carport
DR Dining room
FV Front veranda
FY Front yard
K Kitchen
LV Living room
MB Master bedroom
SK Shrine *(Penunggun karang)*

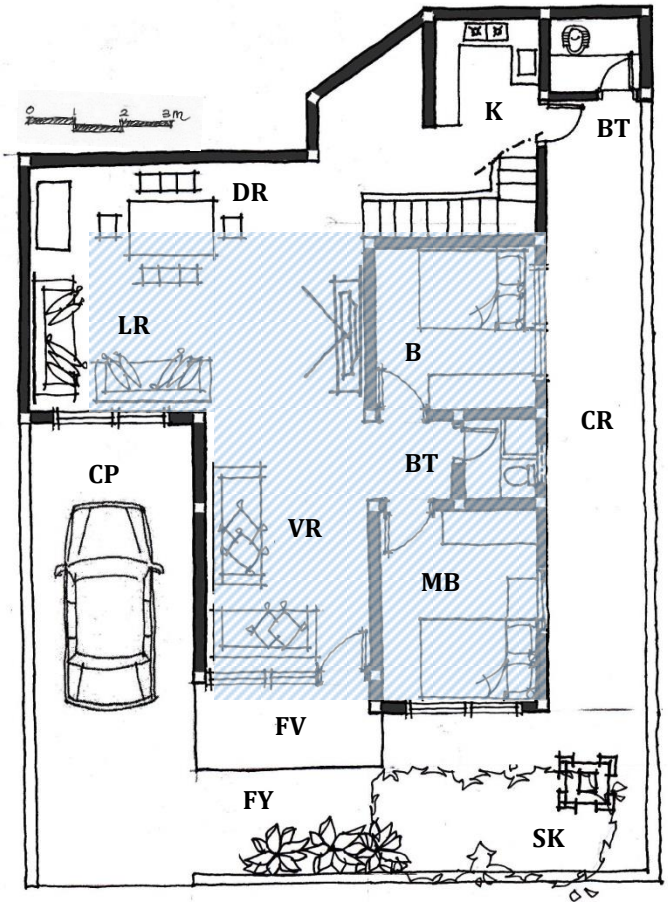
Existing House (2001)



Second Floor

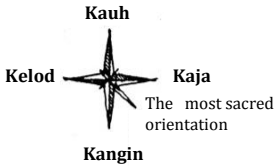


First Floor



Ground Floor

B	Bedroom
BR	Bedroom (house worker)
BT	Bathroom and toilet
CP	Carport
CR	Side corridor (storage)
DR	Dining room
FY	Front yard
K	Kitchen
LR	Leisure room
MB	Master bedroom
OB	Open bathroom
RT	Roof water tank
SK	Shrine *(Penunggun karang)*
V	Veranda
VR	Visitor reception room
WA	Washing area (washing machine and clothes hanging rack)

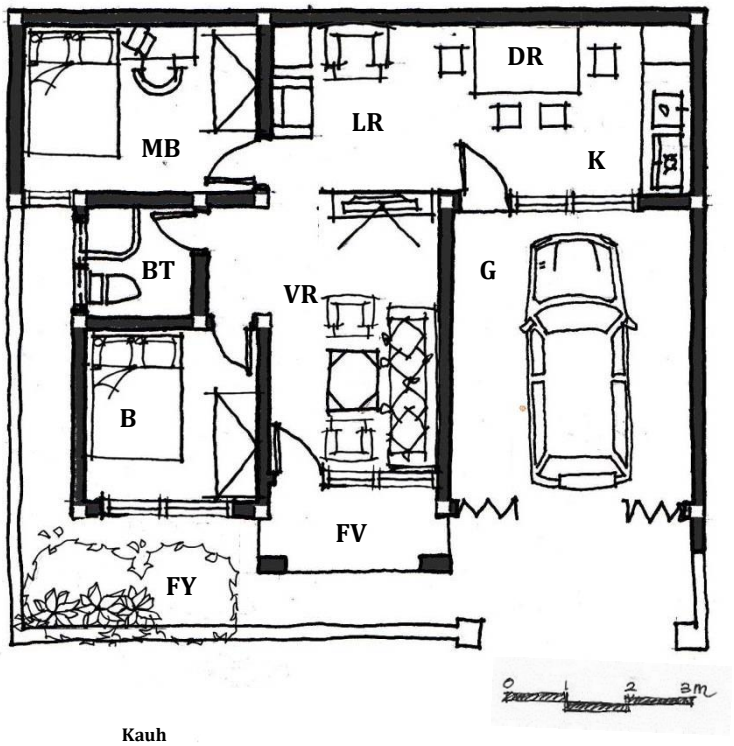


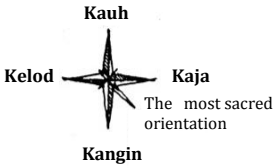
The most sacred orientation

Plot of existing house

Transformed House (2011)

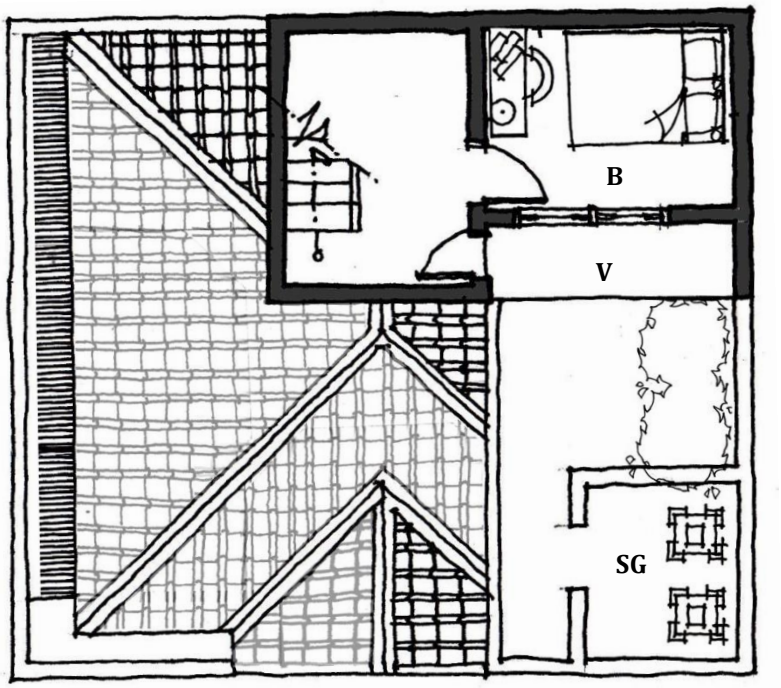
I Ketut Sunadi's dwelling





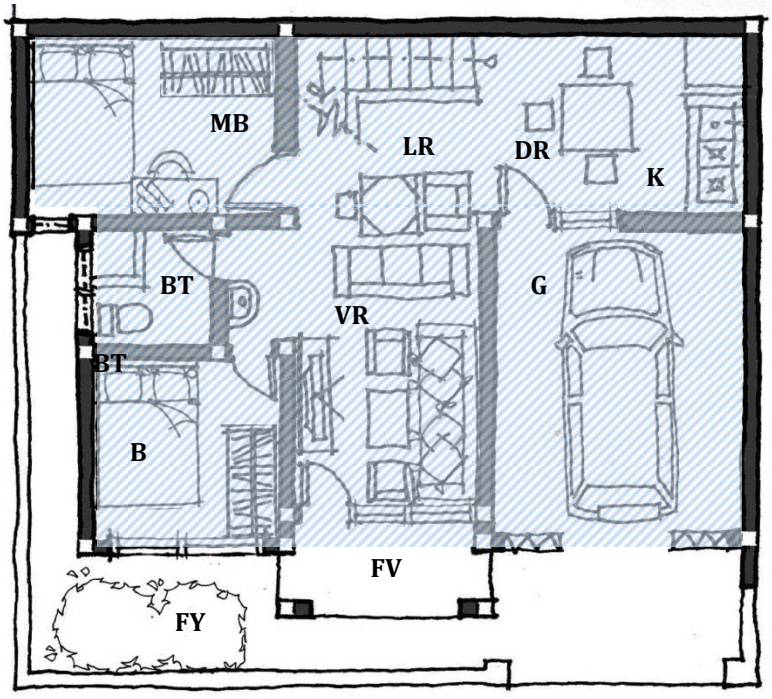
B	Bedroom	**G**	Garage
BT	Bathroom and toilet	**K**	Kitchen
DR	Dining room	**LR**	Leisure room
FV	Front veranda	**MB**	Master bedroom
FY	Front yard	**VR**	Visitor reception room

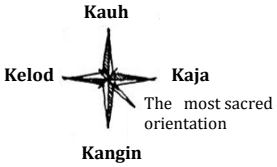
Existing House (2001)



B Bedroom
BT Bathroom and toilet
DR Dining room
FY Front yard
FV Front veranda
G Garage
K Kitchen
LR Leisure room
MB Master bedroom
SA Shrines area *(Sanggah Alit)*
VR Visitor reception room

First Floor



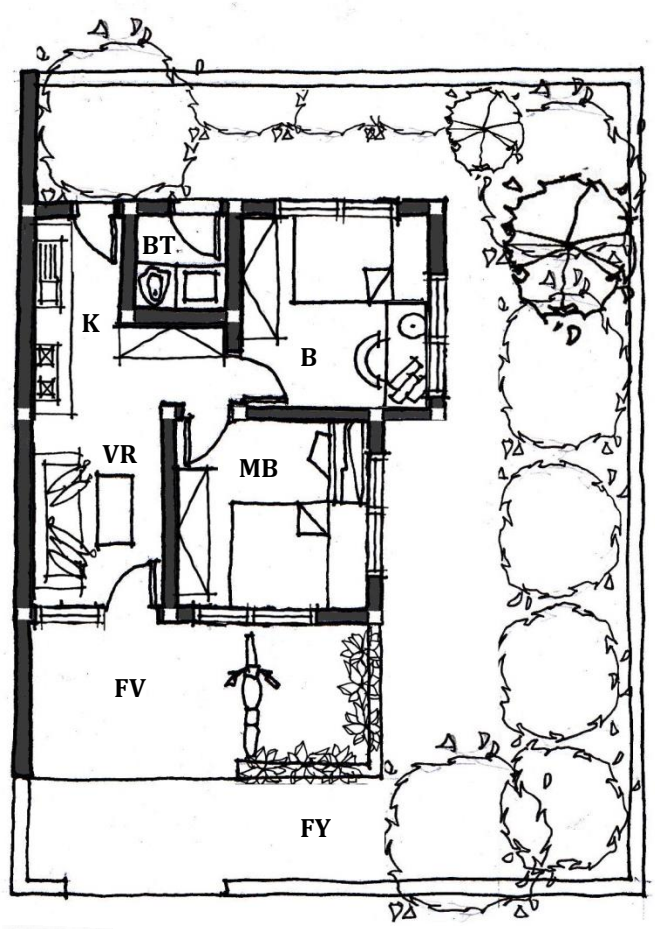


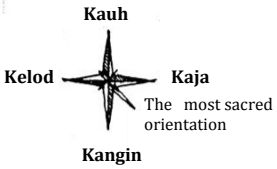
Plot of existing house

Ground Floor

Transformed House (2011)

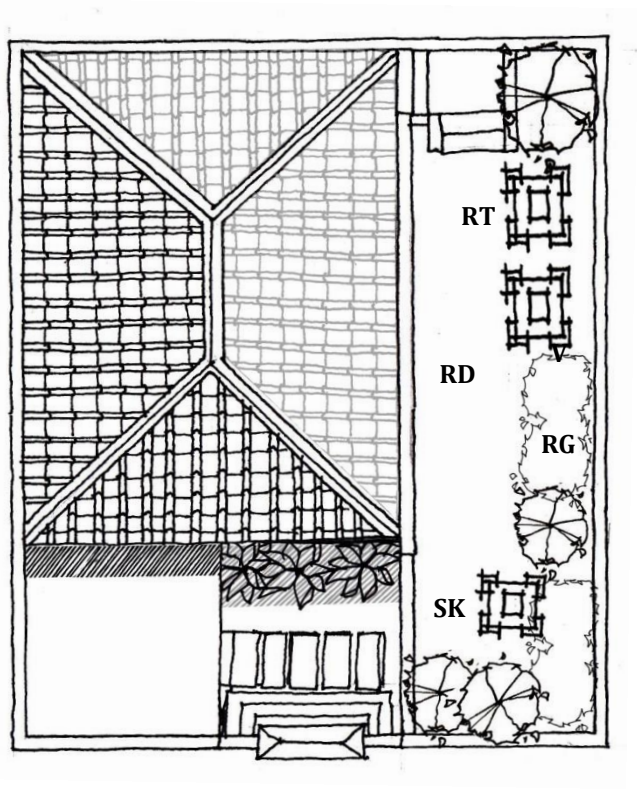
Tjokorda Made Atmaja's dwelling





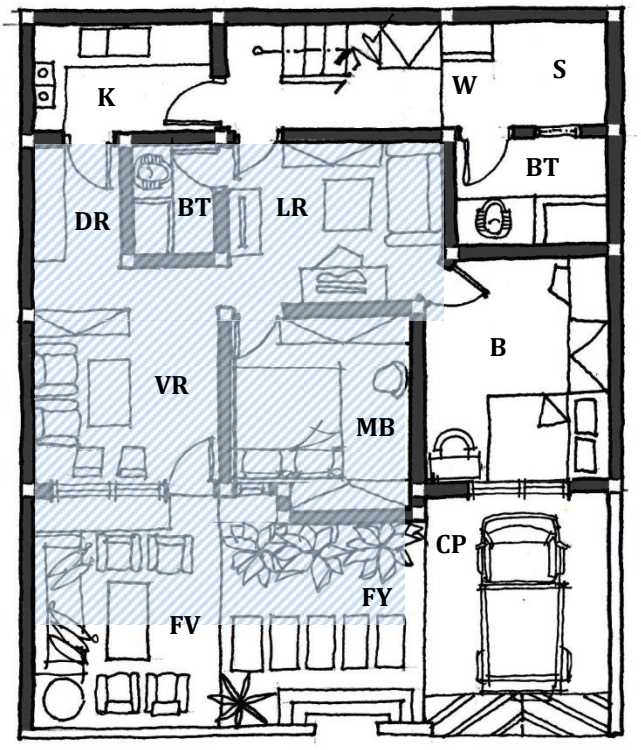
B	Bedroom	**G**	Garage
BT	Bathroom and toilet	**K**	Kitchen
DR	Dining room	**LR**	Leisure room
FV	Front veranda	**MB**	Master bedroom
FY	Front yard	**VR**	Visitor reception room

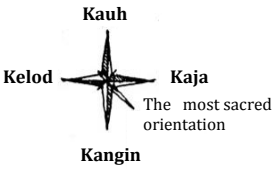
Existing House (2001)



B Bedroom
BT Bathroom and toilet
CP Carport
DR Dining room
FV Front veranda
FY Front yard (motorcycle parking area)
K Kitchen
LR Leisure room
MB Master bedroom
RD Roof deck
RG Roof garden
RT Roof water tank
S Storage
SK Shrine *(Penunggun karang)*
VR Visitor reception room
W Water well

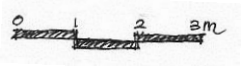
First Floor





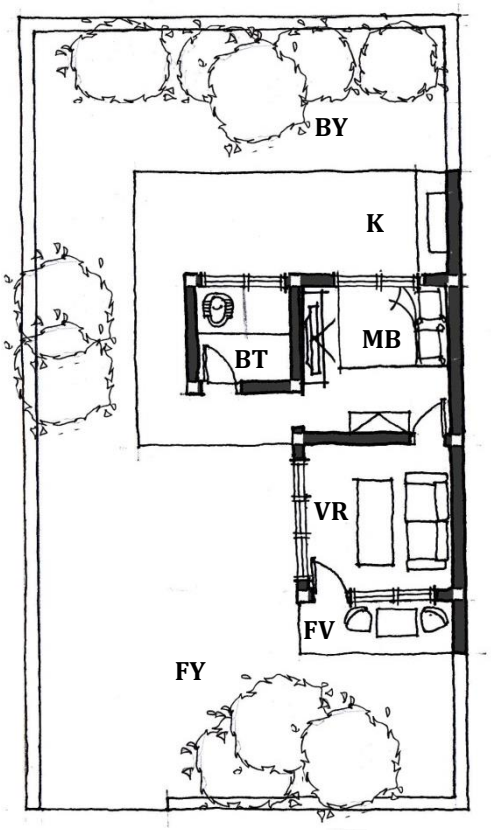
Plot of existing house

Ground Floor



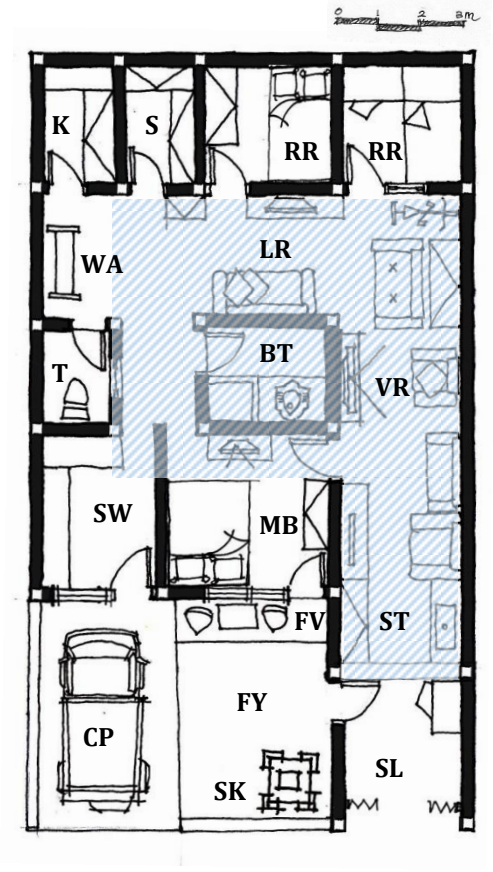
Transformed House (2011)

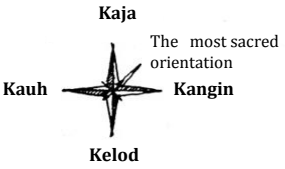
I Wayan Sugiatma's dwelling



BT Bathroom and toilet
BY Back yard
CP Carport
FV Front veranda
FY Front yard
K Kitchen
LR Leisure room
MB Master bedroom
RR Rented space (accommodation)
S Storage
SK Shrine *(Penunggun karang)*
SL Small shop
ST Sitting area
SW Sewing room
T Toilet
VR Visitor reception room
WA Washing area

Existing House (2001)

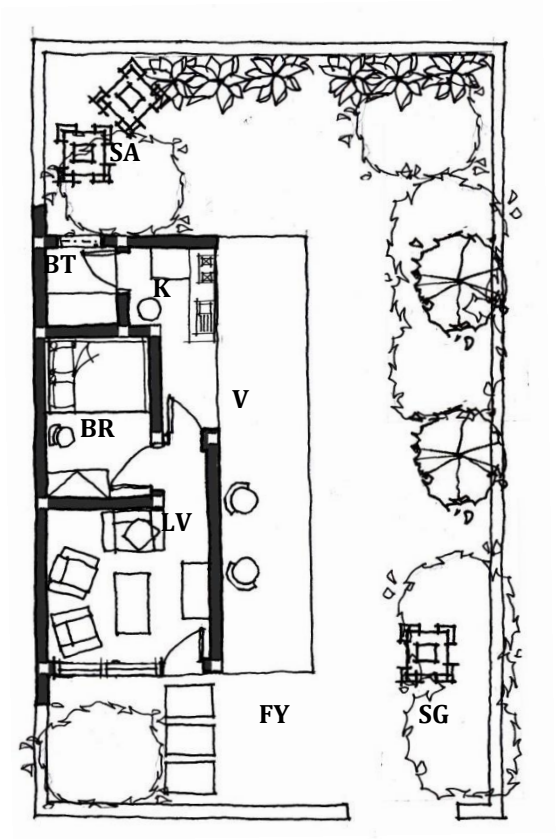


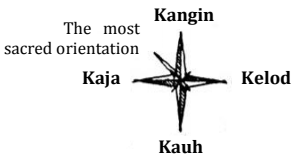


Plot of existing house

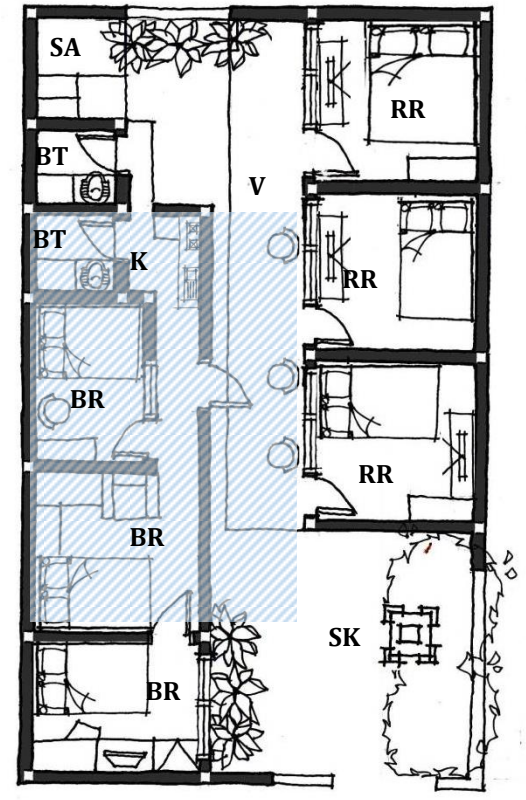
Transformed House (2011)

Ni Wayan Sudri's dwelling





Existing House (2001)

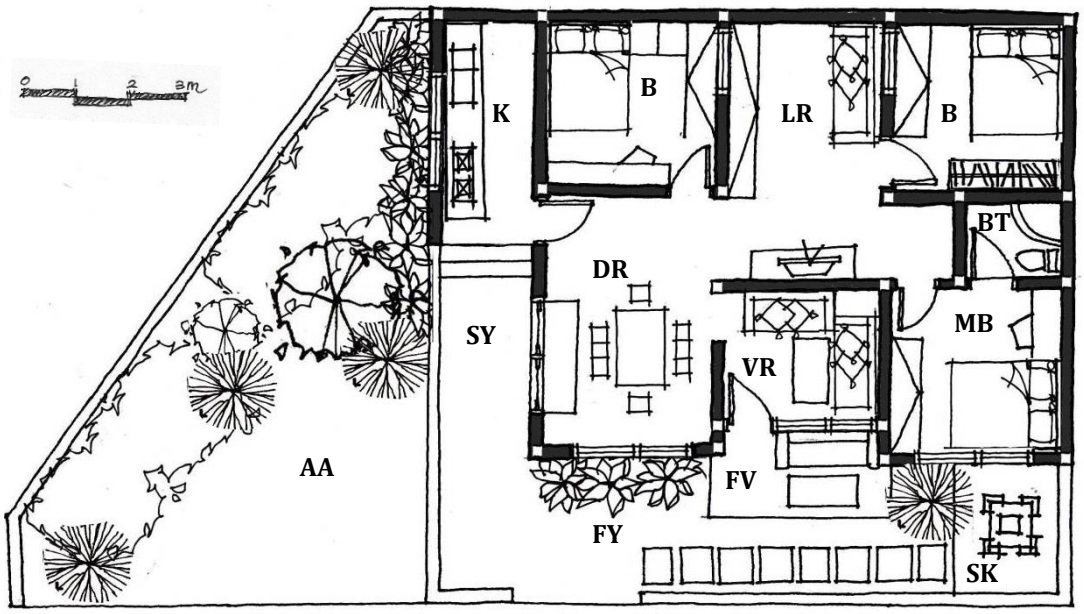


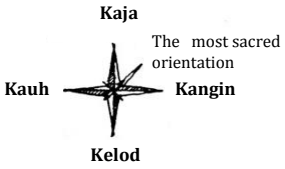
BR Bedroom
BT Bathroom and toilet
FY Front yard
K Kitchen
RR Rented space (accommodation)
SA Shrines area *(Sanggah Alit)*
SK Shrine *(Penunggun karang)*
V Veranda
VR Visitor reception room

Plot of existing house

Transformed House (2011)

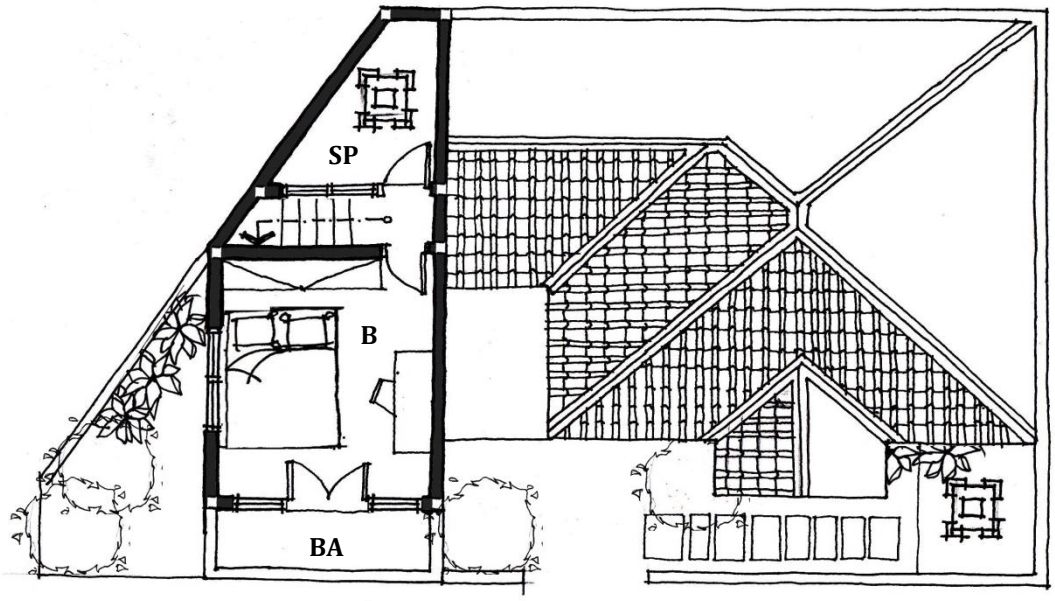
Made Mandika's dwelling



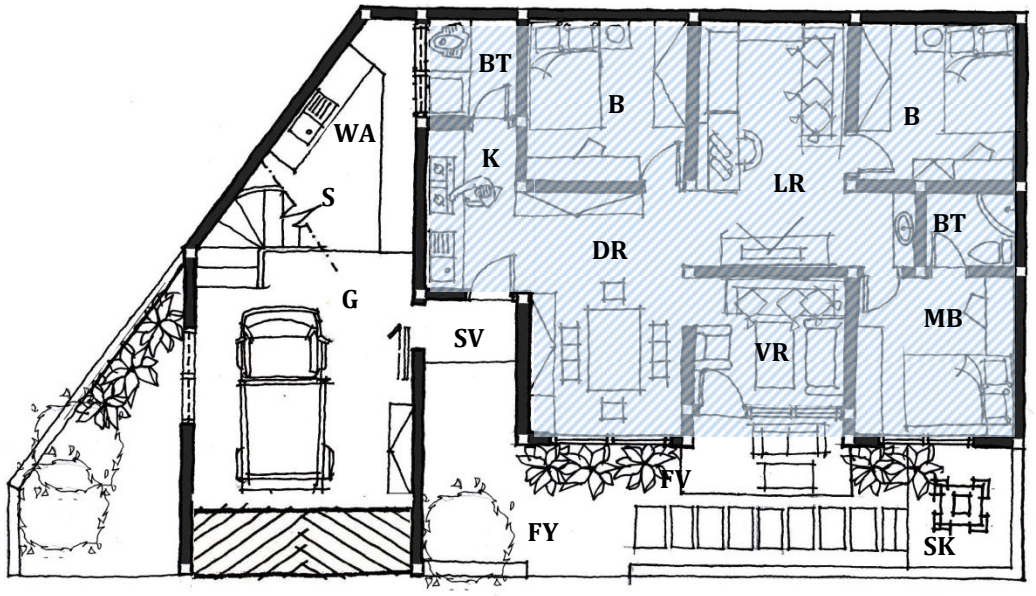


AA Adjacent area
B Bedroom
BT Bathroom and toilet
DR Dining room
FV Front veranda
FY Front yard
K Kitchen
LR Leisure room
MB Master bedroom
SK Shrine *(Penunggun karang)*
SY Side yard
VR Visitor reception room

Existing House (2001)

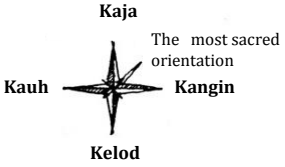


First Floor



Ground Floor

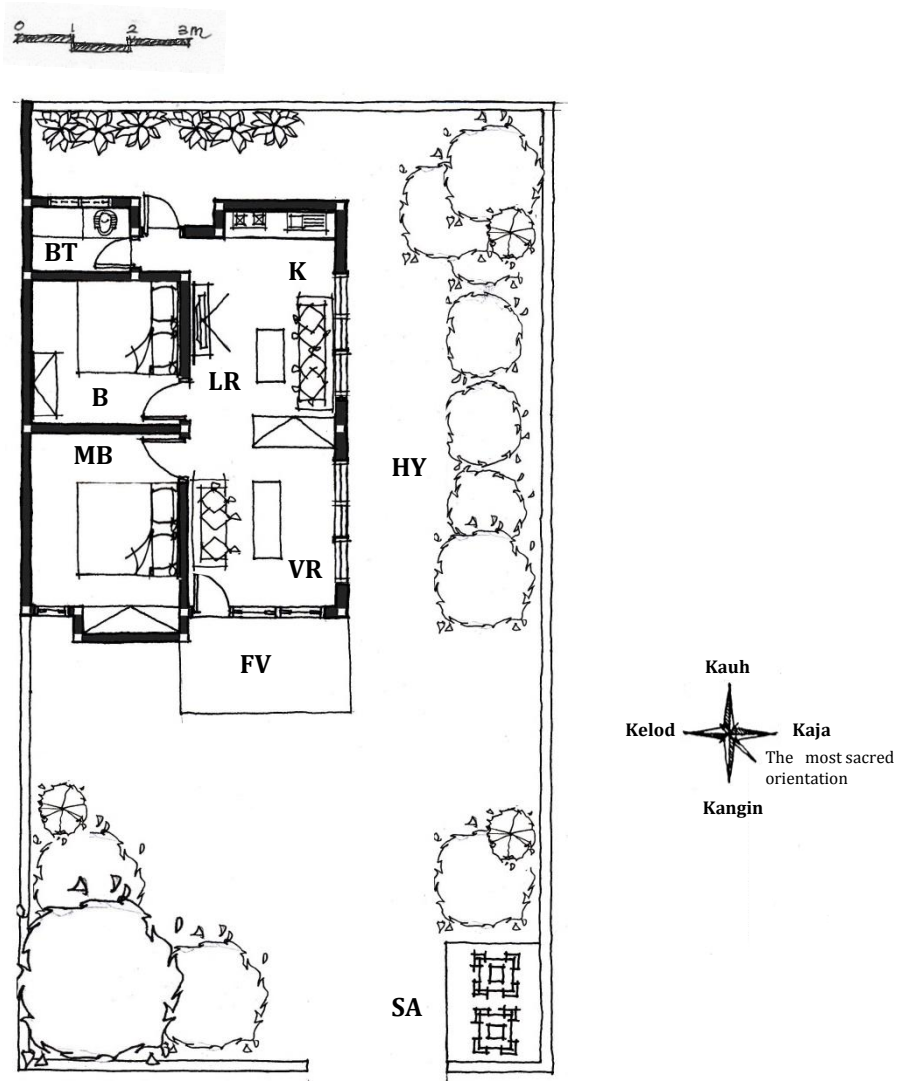
B Bedroom
BA Balcony
BT Bathroom and toilet
DR Dining room
FV Front veranda
FY Front yard
G Garage
K Kitchen
LR Leisure room
MB Master bedroom
S Storage
SK Shrine *(Penunggun Karang)*
SP Shrine *(Padmasana)*
SV Side veranda
SY Side yard
VR Visitor reception room
WA Washing area



Plot of existing house

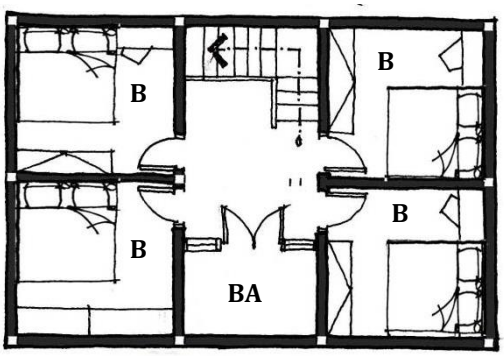
Transformed House (2011)

I Made Sandy Aryawan's dwelling

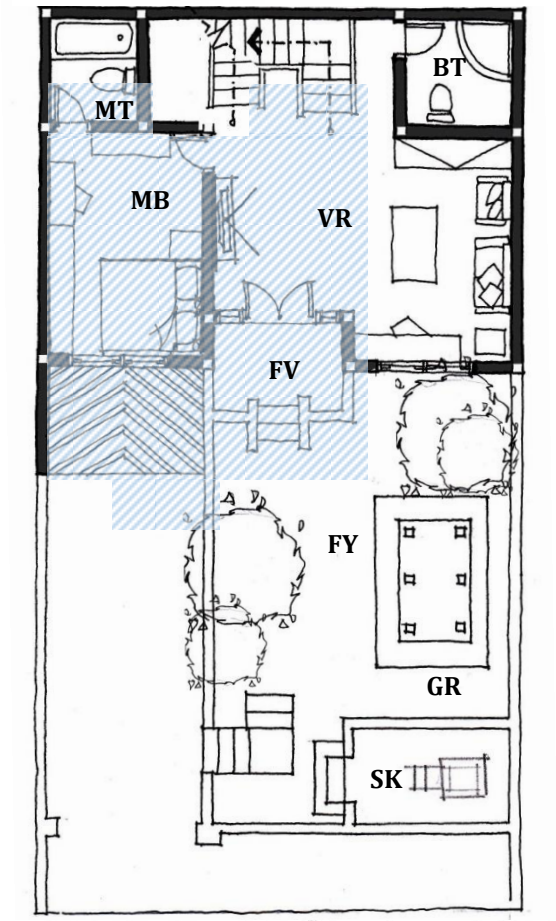


B	Bedroom	**K**	Kitchen
BT	Bathroom and toilet	**LR**	Leisure room
FV	Front veranda	**MB**	Master bedroom
FY	Front yard	**SA**	Shrines area *(Sanggah Alit)*
HY	House yard	**VR**	Visitor reception room

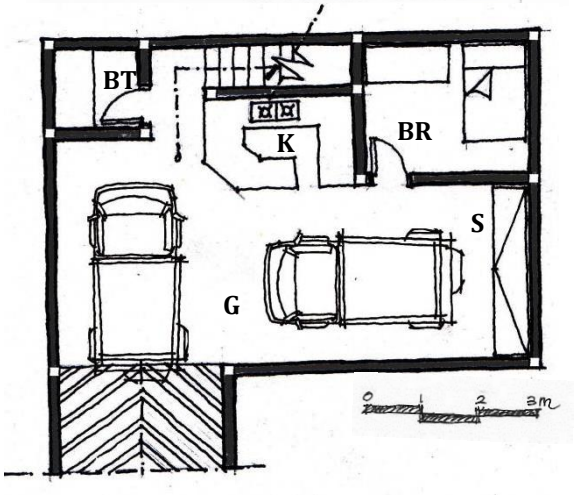
Existing House (2001)



First Floor



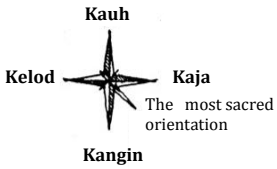
Ground Floor



Semi-basement

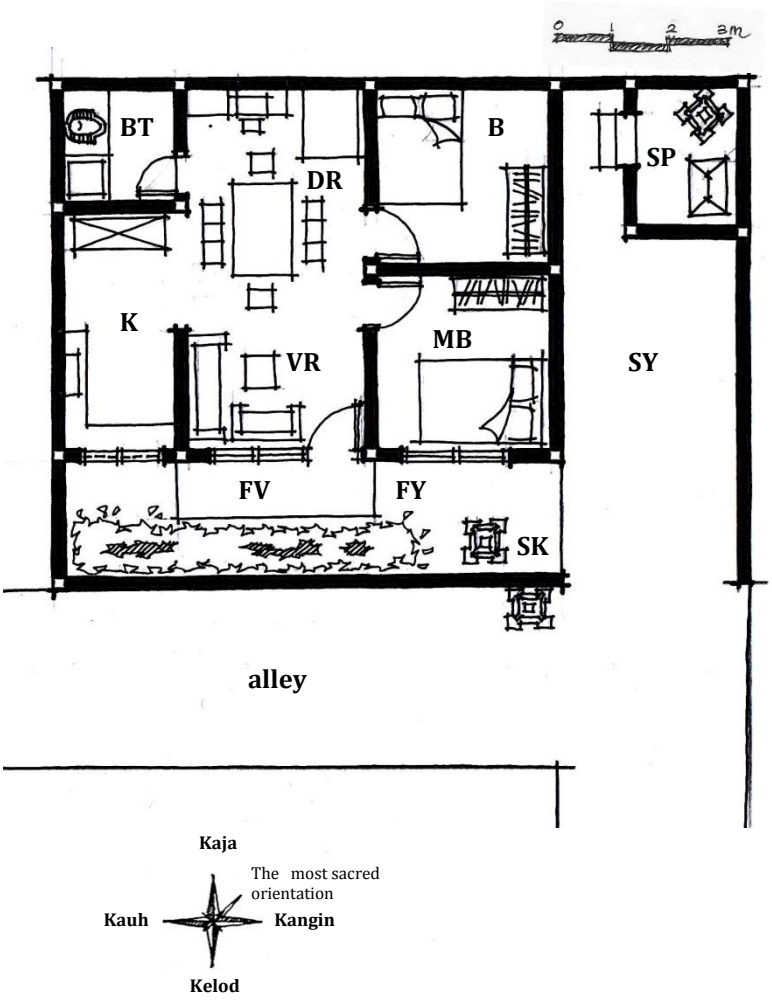
B	Bedroom
BA	Balcony
BR	Bedroom (house worker)
BT	Bathroom and toilet
FV	Front veranda
FY	Front yard
G	Garage
GR	Granary *(lumbung)*
K	Kitchen
MB	Master bedroom
MT	Master bathroom
S	Storage
SK	Shrine *(Penunggun karang)*
SP	Shrine *(Padmasana)*
VR	Visitor reception room

Plot of existing house



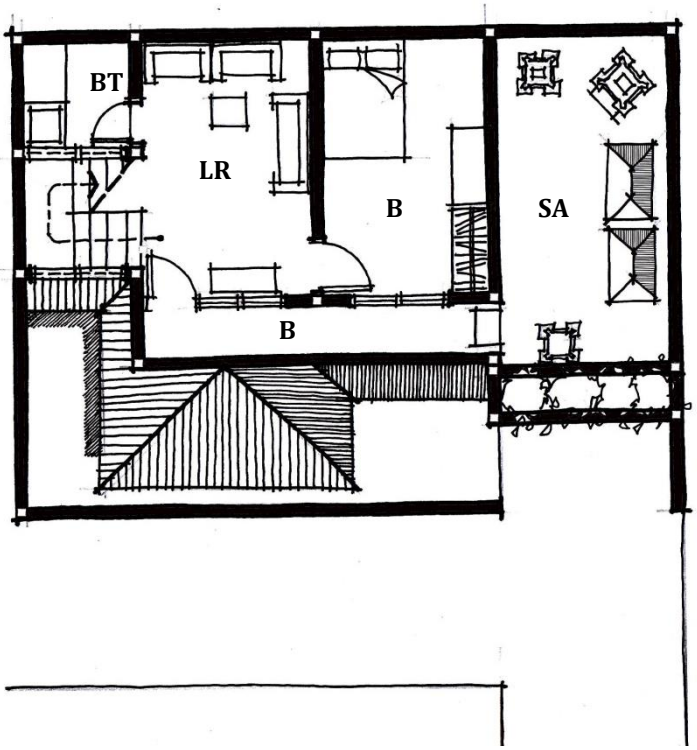
Transformed House (2011)

I Putu Wijana's dwelling



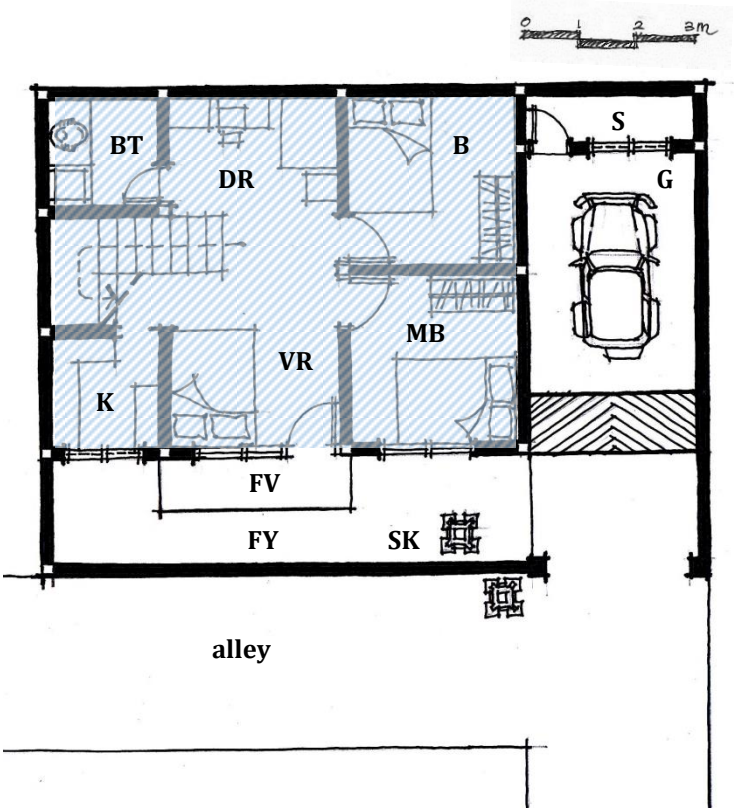
B	Bedroom	**K**	Kitchen
BT	Bathroom and toilet	**MB**	Master bedroom
DR	Dining room	**SP**	Shrines *(Padmasana)*
FV	Front veranda	**SY**	Side yard
FY	Front yard	**VR**	Visitor reception room

Existing House (2001)

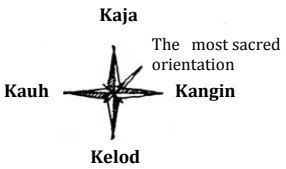


B Bedroom
BA Balcony
BT Bathroom and toilet
DR Dining room
FV Front veranda
FY Front yard
G Garage
K Kitchen
LR Leisure room
MB Master bedroom
S Storage
SA Shrines area *(Sanggah Alit)*
SK Shrine *(Penunggun karang)*
VR Visitor reception room

First Floor



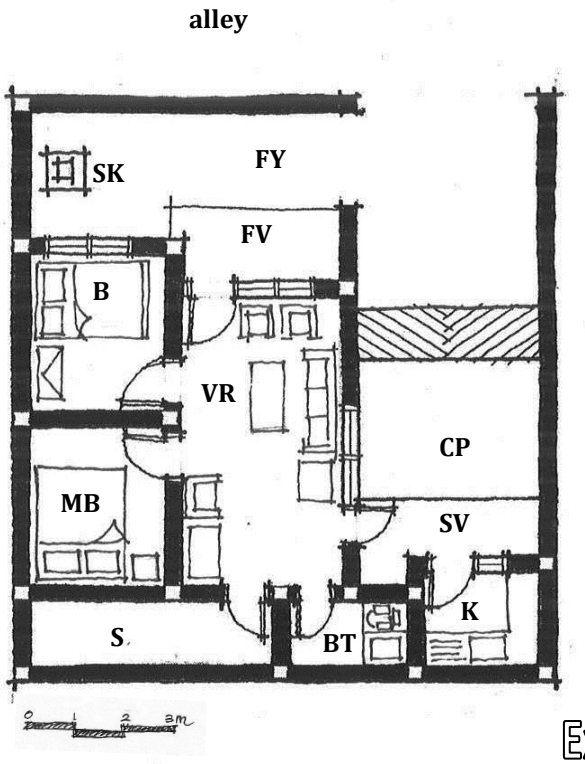
Plot of existing house



Ground Floor

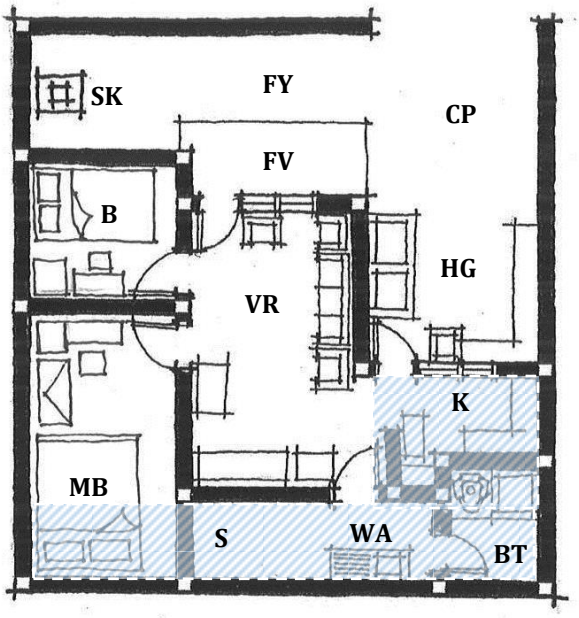
Transformed House (2011)

I Wayan Sueta Antara's dwelling



B Bedroom
BT Bathroom and toilet
CP Carport
FY Front yard
FV Front veranda
SK Shrine *(Penunggun karang)*
VR Visitor reception room
MB Master bedroom
K Kitchen
S Storage
SV Side veranda
HG Home garment business
WA Washing area

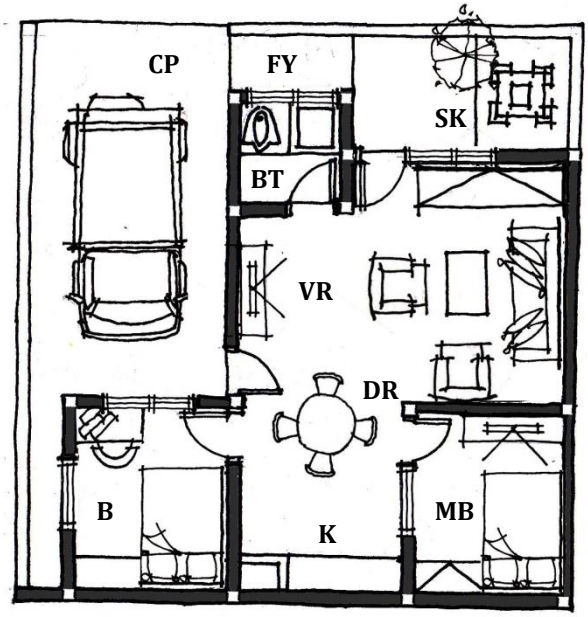
Existing House (2001)



Alteration

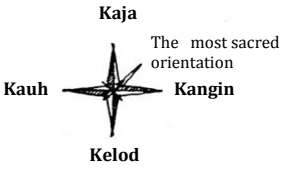
Transformed House (2011)

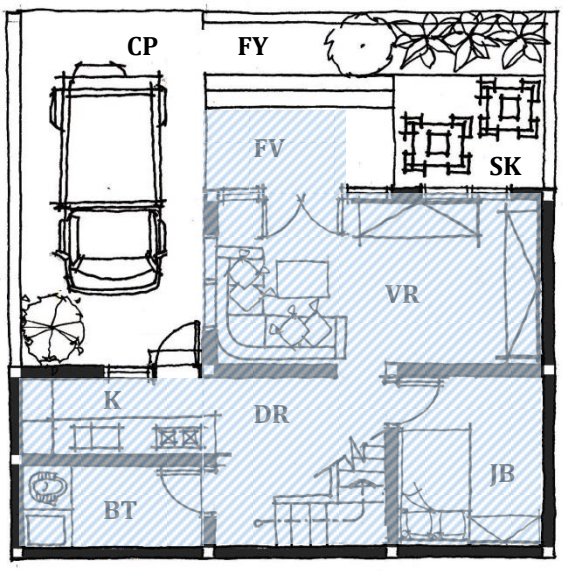
I Wayan Sumerta's dwelling



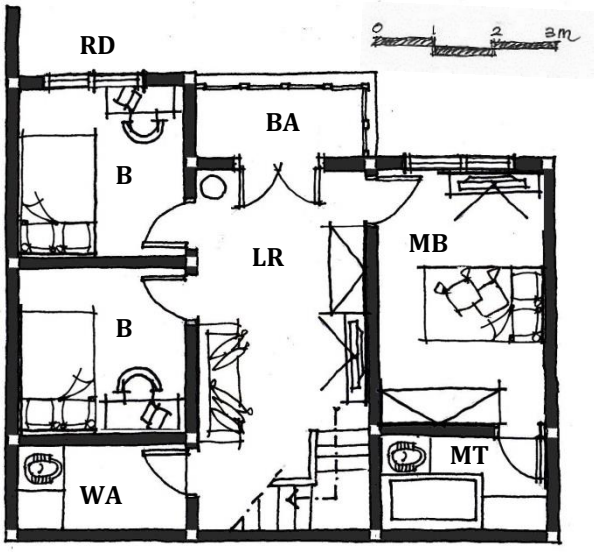
Plot of existing house

Existing House (2001)





Ground Floor

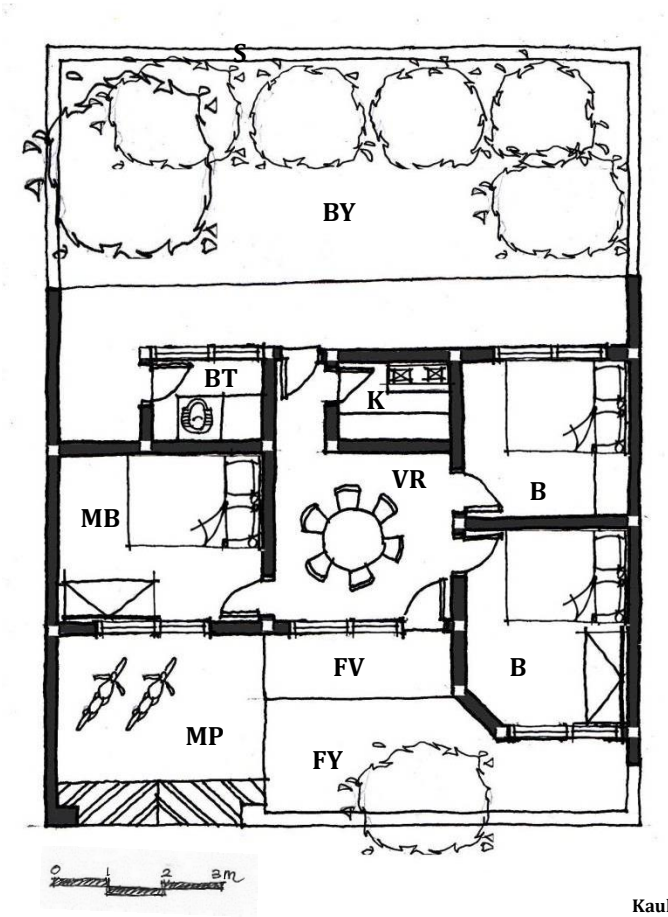


First Floor

Transformed House (2011)

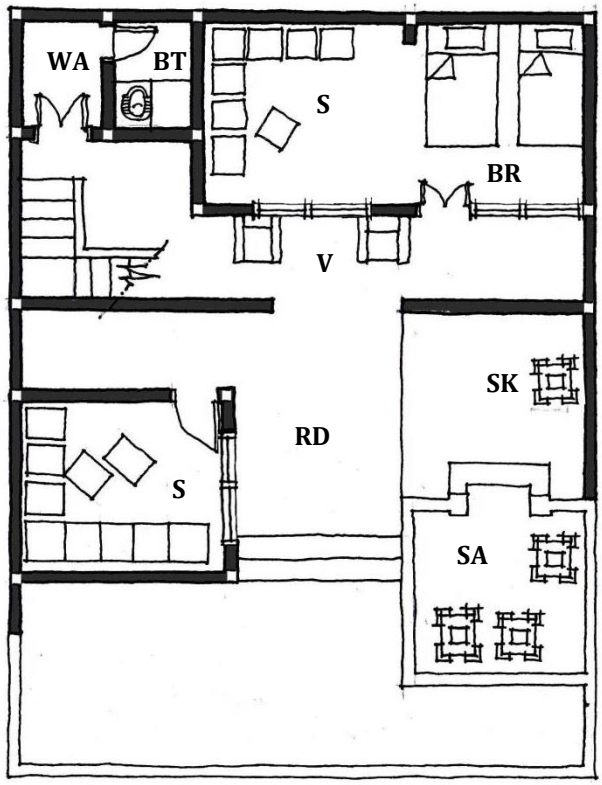
B Bedroom
BA Balcony
BT Bathroom and toilet
CP Carport
DR Dining room
FV Front veranda
FY Front yard
K Kitchen
LR Leisure room
MB Master bedroom
MT Master bathroom
RD Roof deck
SA Shrines area *(Sanggah Alit)*
SK Shrine *(Penunggun karang)*
VR Visitor reception room
WA Washing area

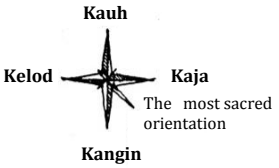
I Ketut Tomi's dwelling



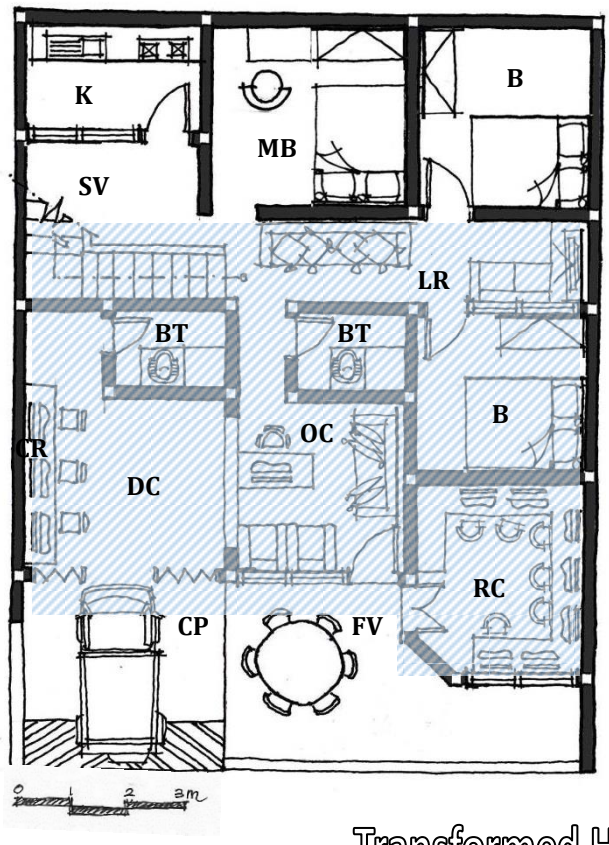
B Bedroom
BT Bathroom and toilet
BY Back yard
FV Front veranda
FY Front yard
K Kitchen
MB Master bedroom
MP Motorcycle parking area
VR Visitor reception room

Existing House (2001)





First Floor



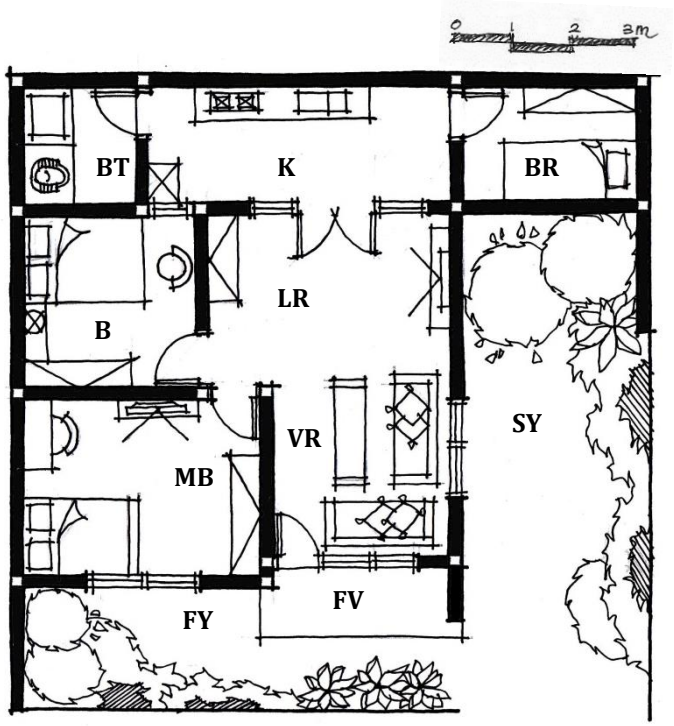
B Bedroom
BR Bedroom (house worker)
BT Bathroom and toilet
CP Carport
DC Computer display room
FV Front veranda
K Kitchen
LR Leisure room
MB Master bedroom
OC Office and computer shop
RC Rental computer
RD Roof deck
S Storage
SA Shrines area *(Sanggah Alit)*
SK Shrine *(Penunggun karang)*
SV Service area
V Veranda
WA Washing area (washing machine and clothes hanging rack)

Plot of existing house

Ground Floor

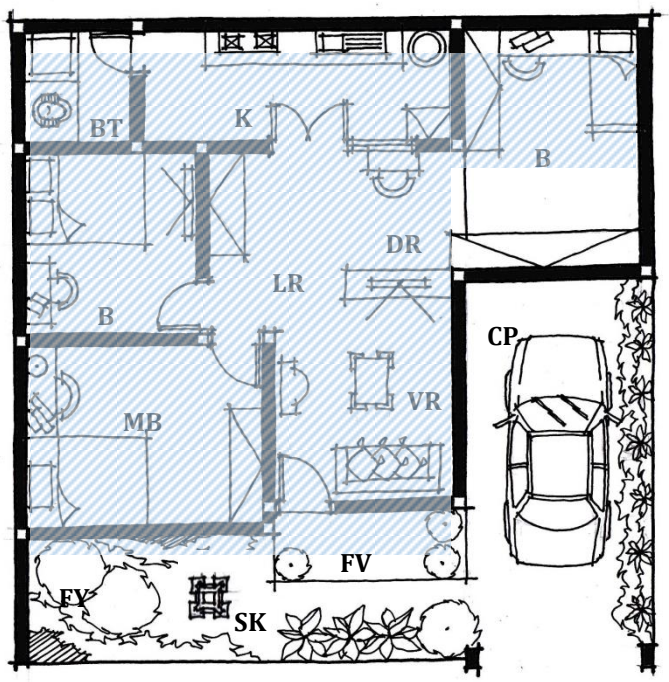
Transformed House (2011)

I Nengah Tangkas Swacita's dwelling

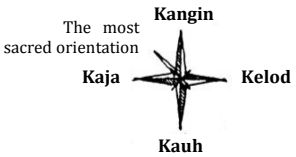


B Bedroom
BR Bedroom (house worker)
BT Bathroom and toilet
CP Carport
DR Dining room
FV Front veranda
FY Front yard
K Kitchen
LR Leisure room
MB Master bedroom
SK Shrine *(Penunggun karang)*
SY Side yard
VR Visitor reception room

Existing House (2001)

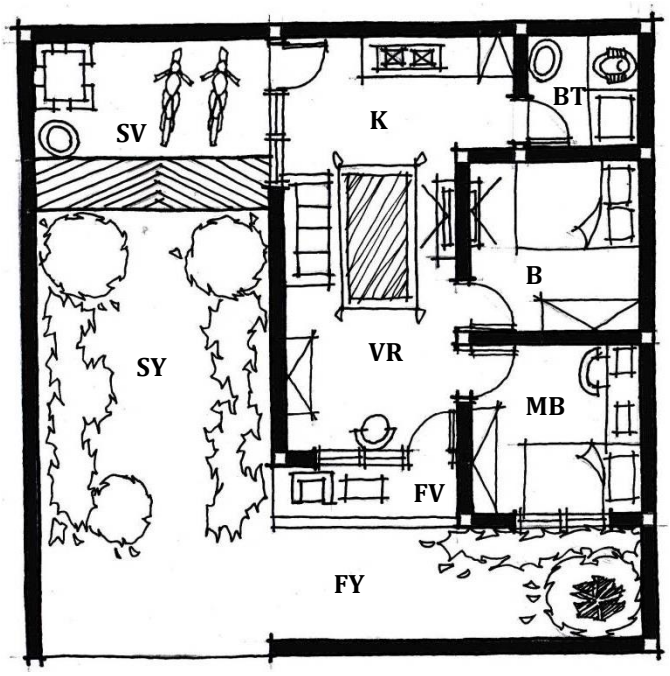


Plot of existing house



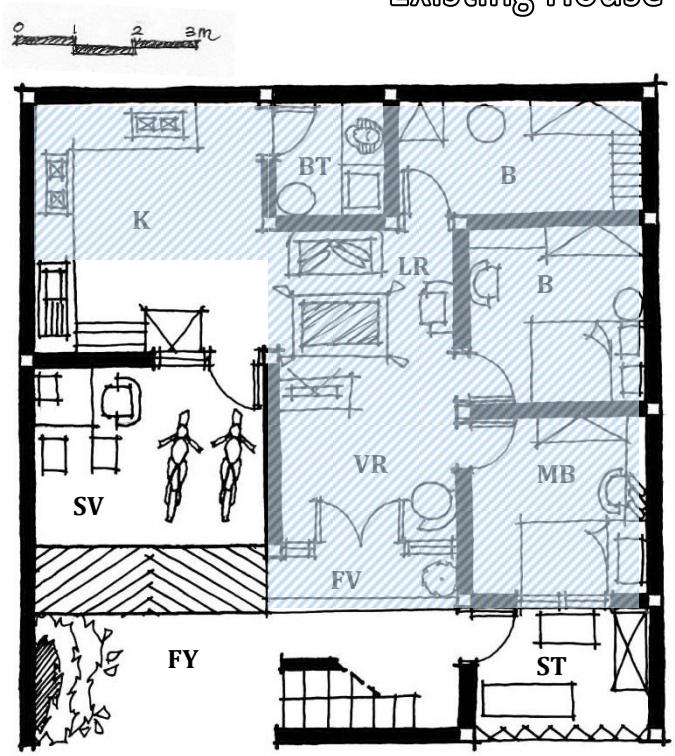
Transformed House (2011)

I Ketut Artayasa's dwelling

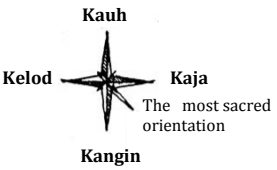


B Bedroom
BT Bathroom and toilet
FV Front veranda
FY Front yard
K Kitchen
LR Leisure room
MB Master bedroom
ST Small shop
SV Side veranda
SY Side yard
VR Visitor reception room

Existing House (2001)

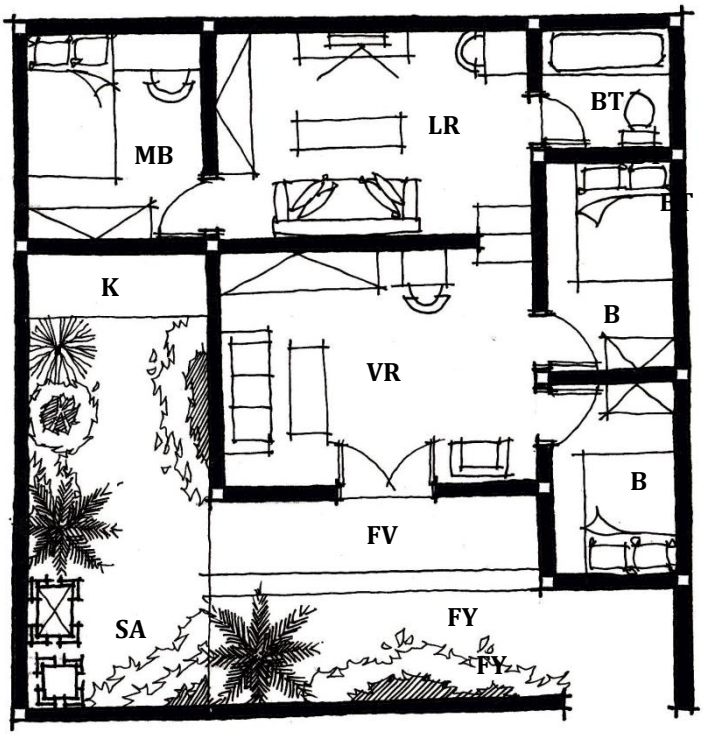


Plot of existing house

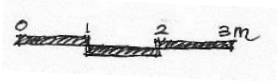


Transformed House (2011)

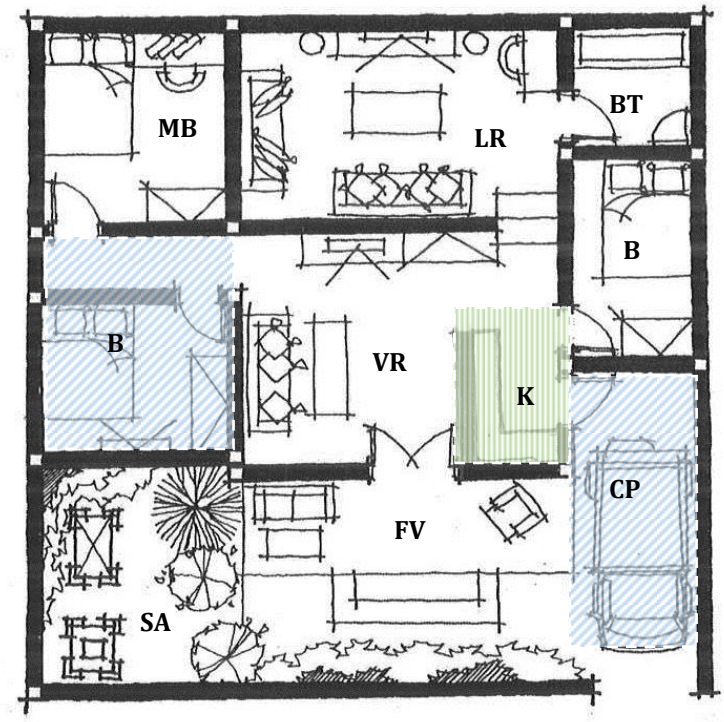
I Ketut Adianta's dwelling



B Bedroom
BT Bathroom and toilet
CP Carport
FV Front veranda
FY Front yard
K Kitchen
LR Leisure room
MB Master bedroom
SA Shrines area *(Sanggah Alit)*
VR Visitor reception room

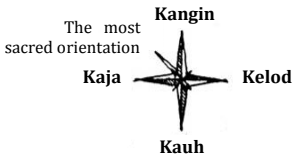


Existing House (2001)



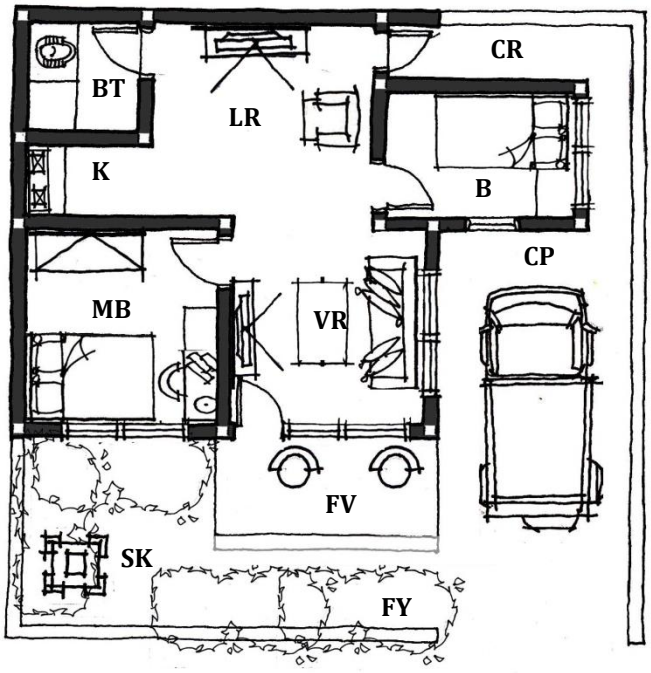
Additional floor

Alteration

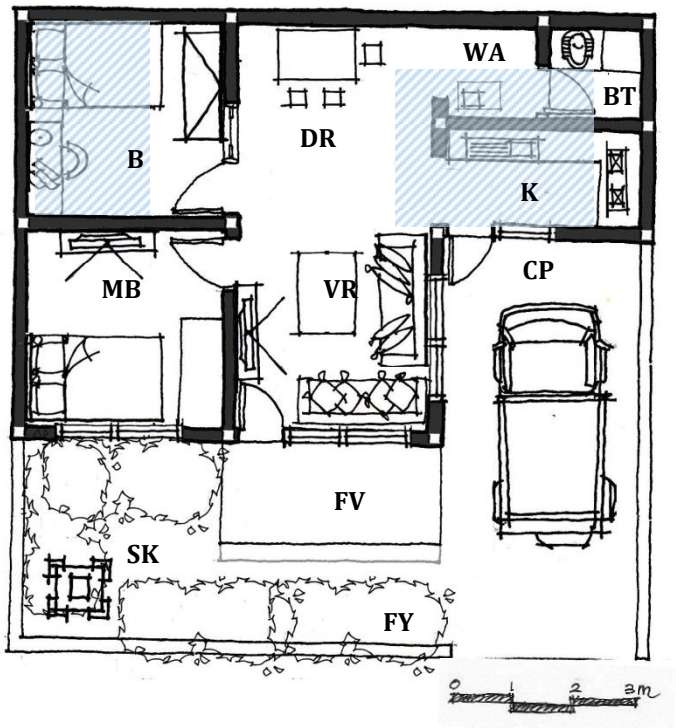


Transformed House (2011)

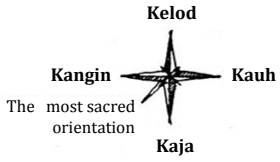
I Gede Ardana's dwelling



Existing House (2001)



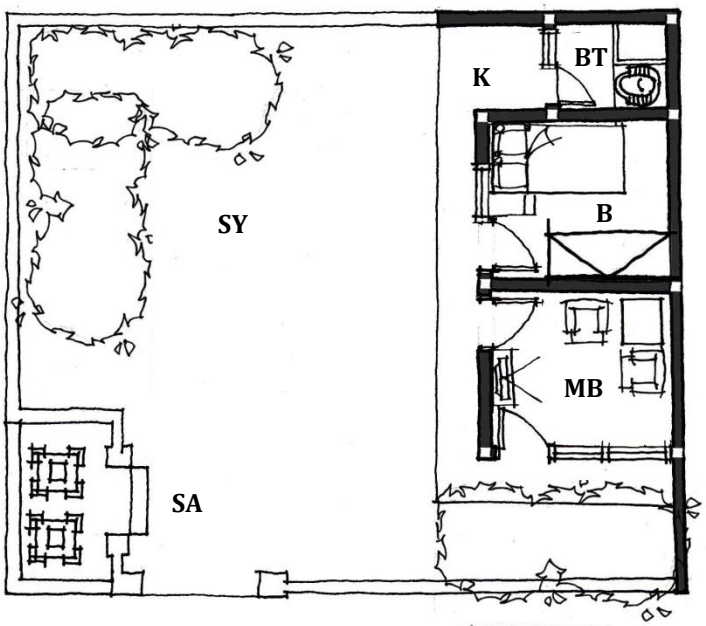
Transformed House (2011)



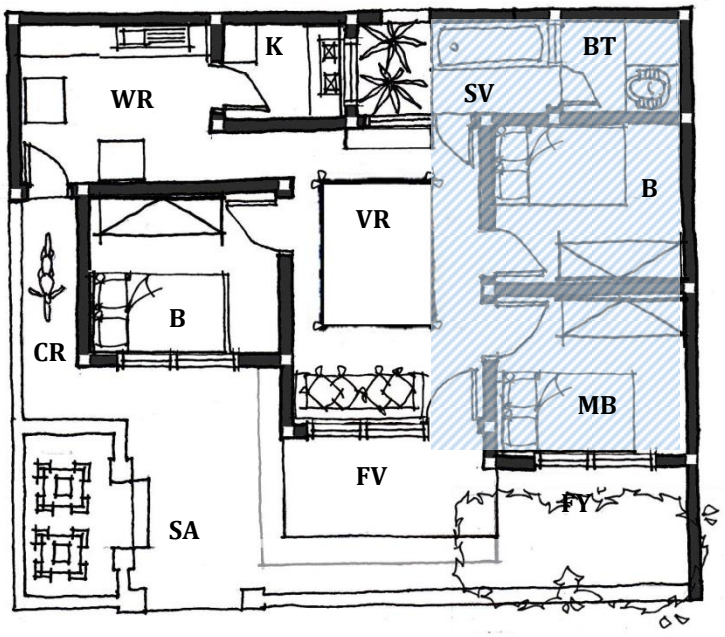
Alteration

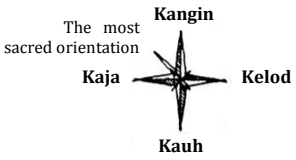
B Bedroom
BT Bathroom and toilet
CP Carport
CR Side corridor
DR Dining room
FV Front veranda
FY Front yard
K Kitchen
LR Leisure room
MB Master bedroom
SK Shrine *(Penunggun karang)*
VR Visitor reception room
WA Washing area

I Gusti Ngurah Meryana's dwelling



Existing House (2001)



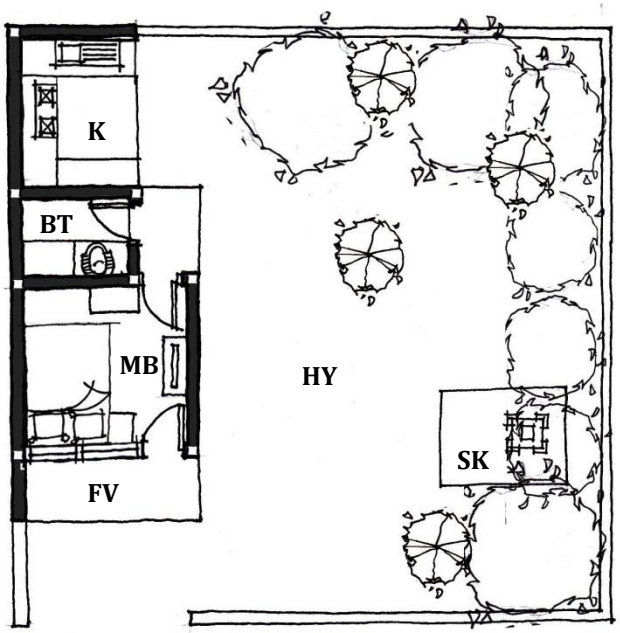


Plot of existing house

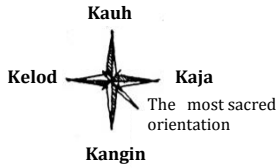
Transformed House (2011)

B Bedroom
BT Bathroom and toilet
CR Side corridor
FV Front veranda
FY Front yard
K Kitchen
MB Master bedroom
SA Shrines area *(Sanggah Alit)*
SV Service area
SY Side yard
VR Visitor reception room
WR Working area

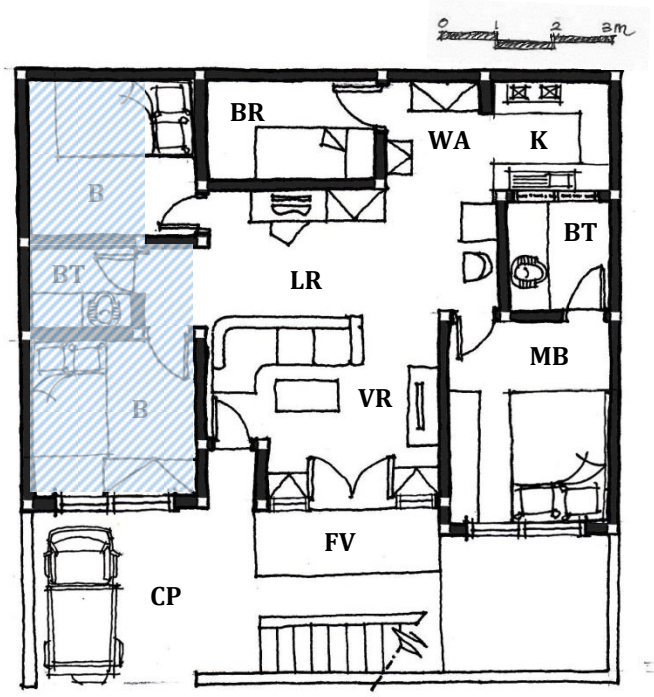
I Ketut Gunawan's dwelling



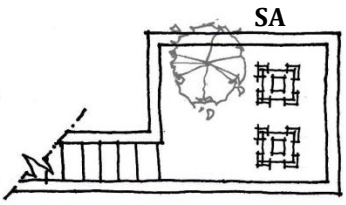
Existing House (2001)



B Bedroom
BT Bathroom and toilet
BR Bedroom (house worker)
CP Carport
FV Front veranda
HY House yard
K Kitchen
LR Leisure room
MB Master bedroom
SA Shrines area *(Sanggah Alit)*
SK Shrine *(Penunggun karang)*
VR Visitor reception room
WA Washing area



Plot of existing house



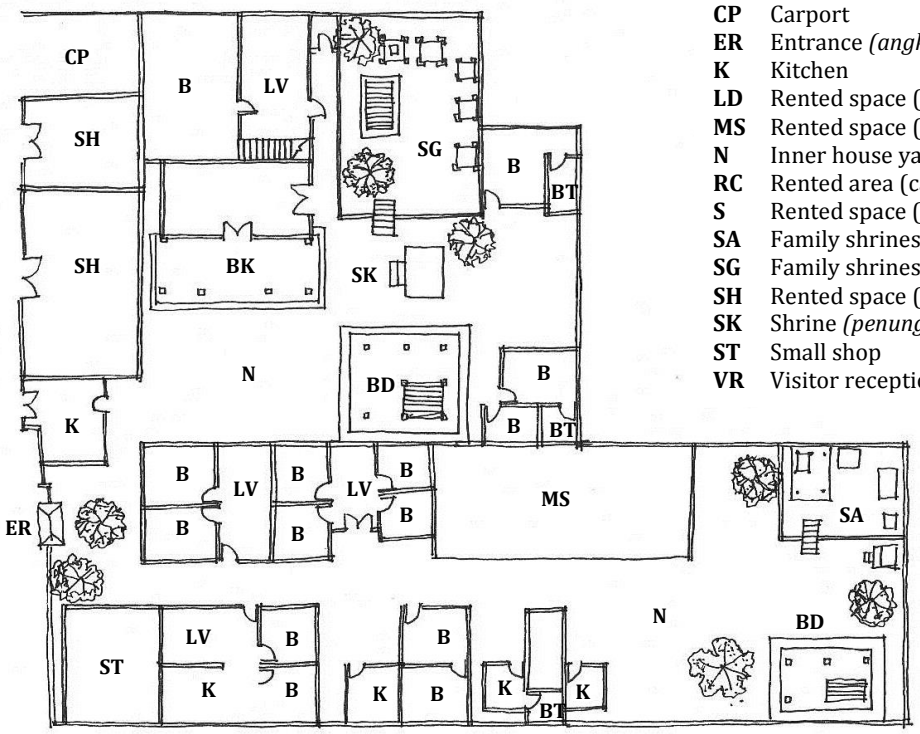
Ground Floor

First Floor

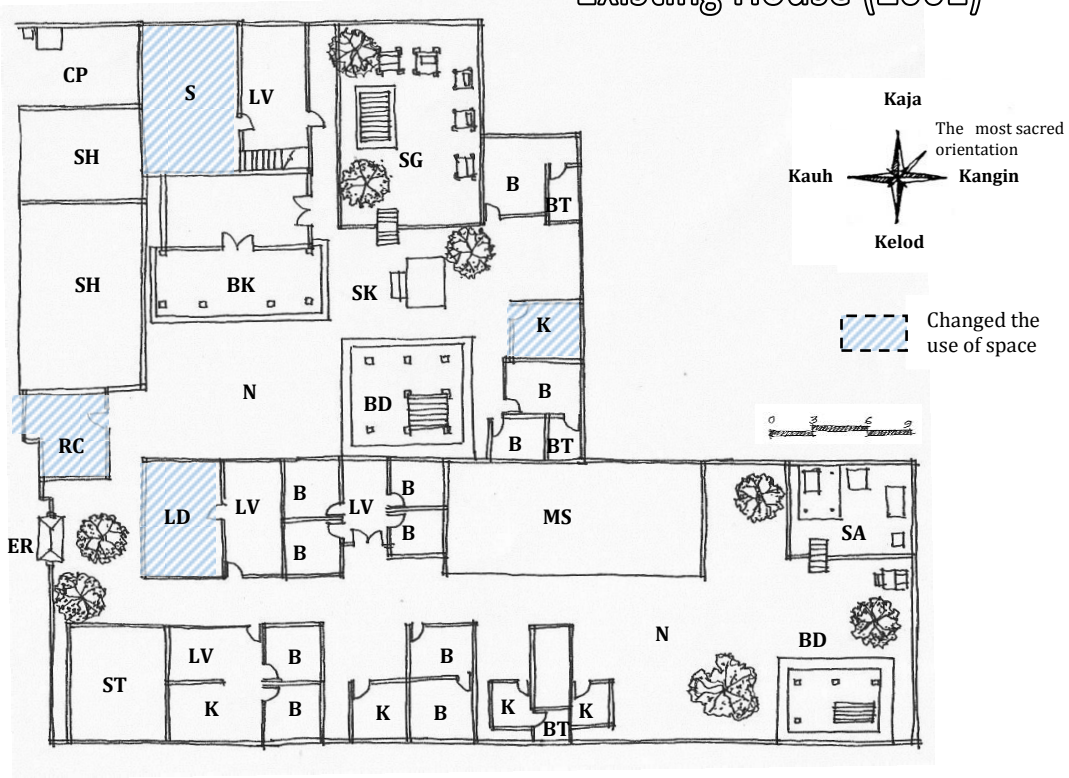
Transformed House (2011)

I Gusti Ngurah Oka Putra's dwelling

B Bedroom
BD Pavilion *(bale delod)*
BK Pavilion *(bale daja)*
BT Bathroom/toilet
CP Carport
ER Entrance *(angkul-angkul)*
K Kitchen
LD Rented space (laundry)
MS Rented space (motorcycle repair shop)
N Inner house yard *(natah)*
RC Rented area (car rental office)
S Rented space (storage)
SA Family shrines *(Sanggah Alit)*
SG Family shrines *(Sanggah Gede)*
SH Rented space (small shop)
SK Shrine *(penunggun karang)*
ST Small shop
VR Visitor reception room



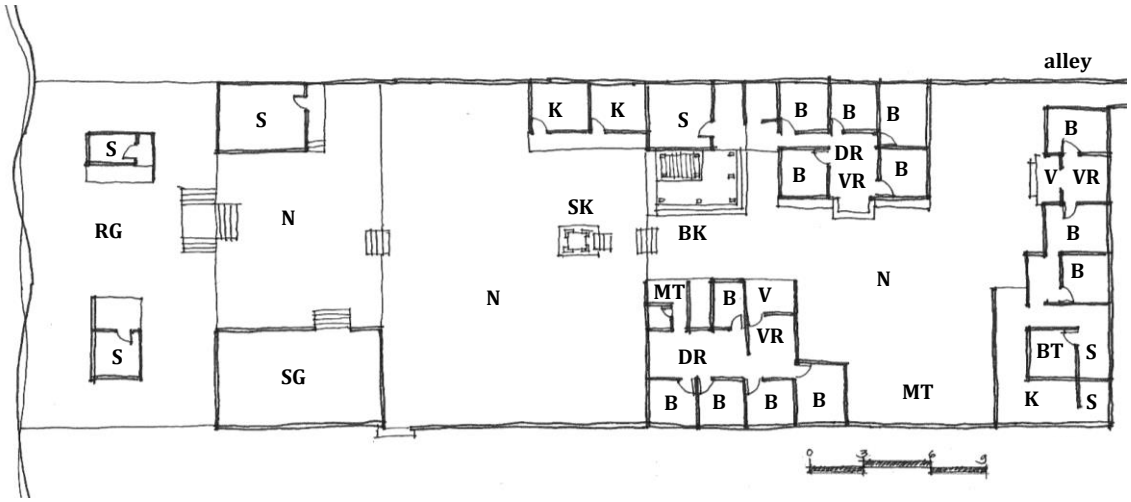
Existing House (2001)



Changed the use of space

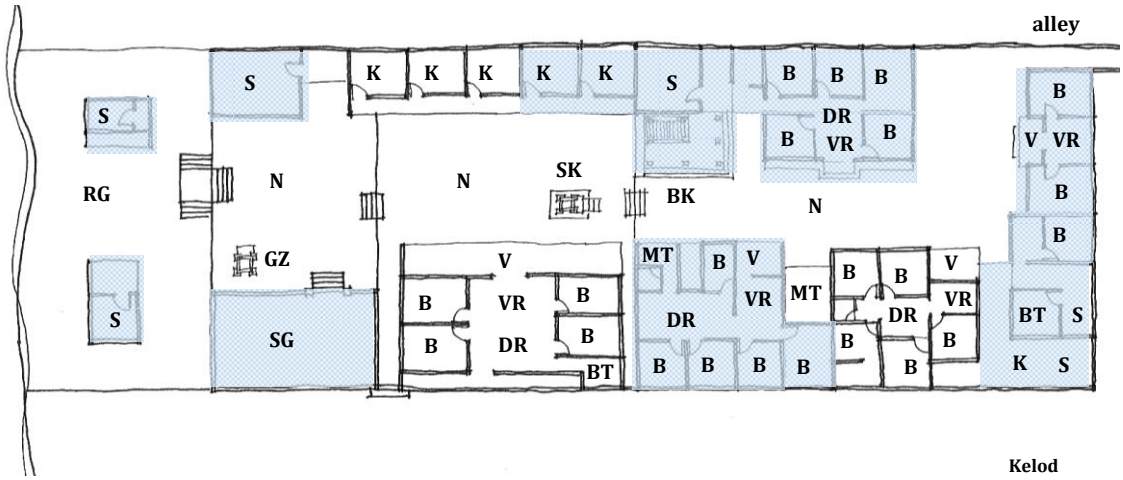
Transformed House (2011)

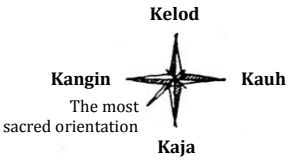
Ketut Sudana's dwelling



Existing House (2001)

Plot of existing compounds

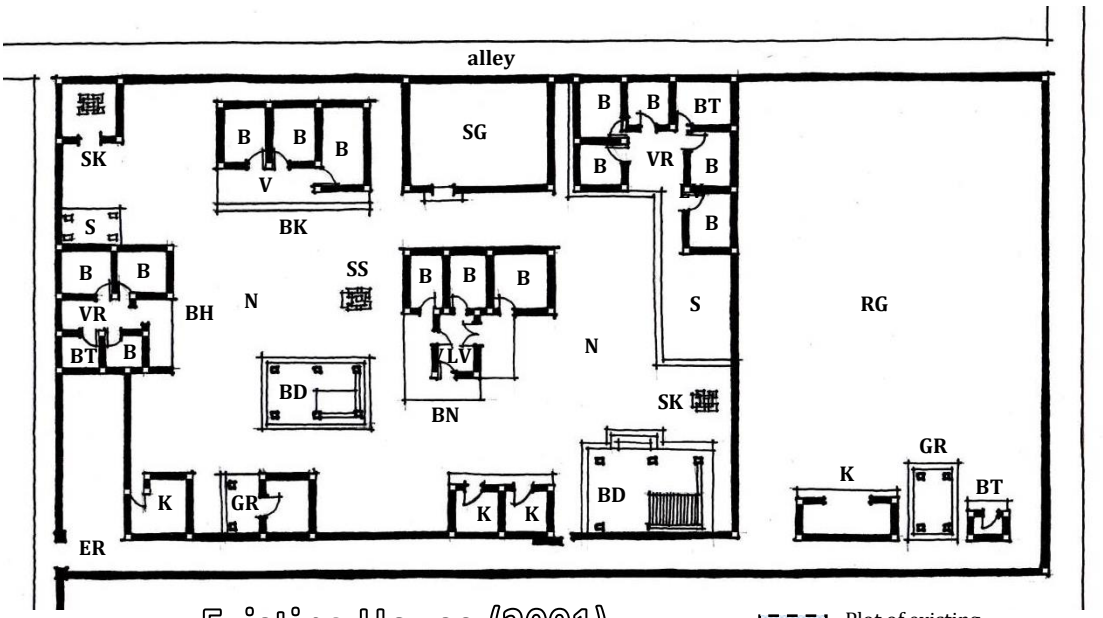




Transformed House (2011)

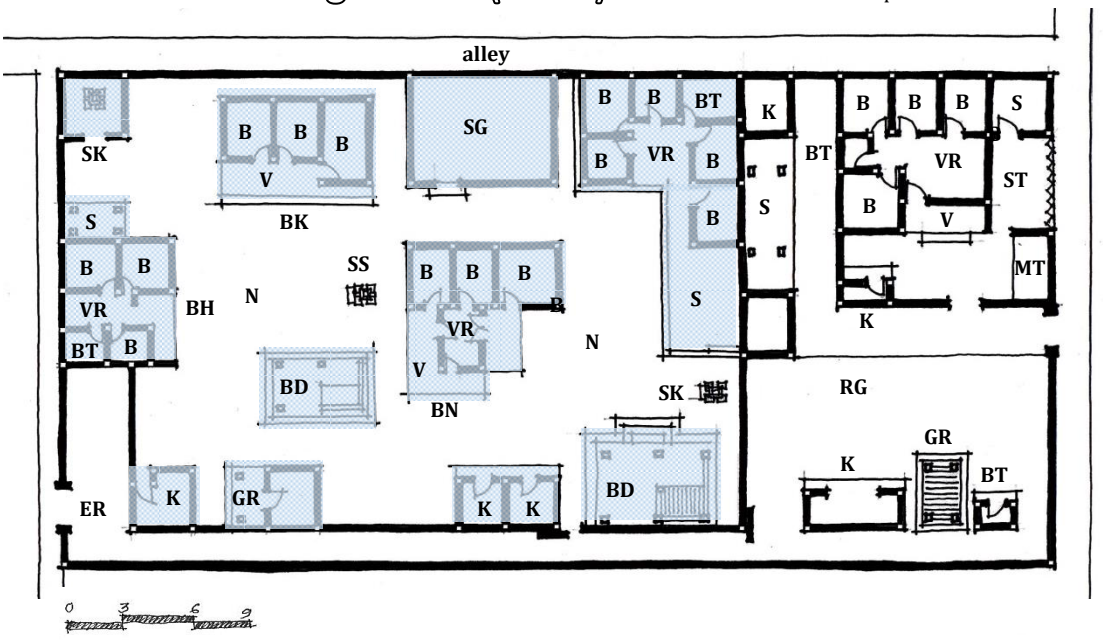
B Bedroom
BK Pavilion *(Bale daja)*
BT Bathroom/toilet
DR Dining room
GZ Gazebo *(bale bengong)*
K Kitchen
N Inner house yard *(Natah)*
MT Motorcycle parking area
S Storage
SG Family shrine *(Sanggah Gede)*
SK Shrine *(Penunggun karang)*
RG Rear garden *(teba)*
V Veranda
VR Visitor reception room

I Made Nichi's dwelling

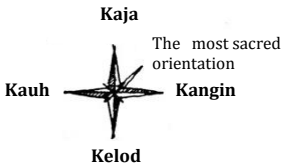


Existing House (2001)

Plot of existing compounds

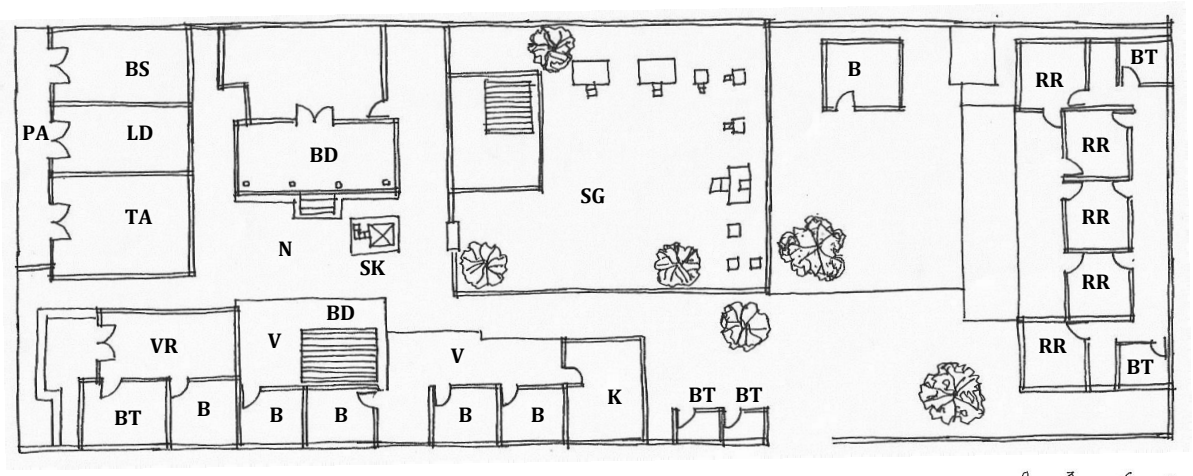


Transformed House (2011)

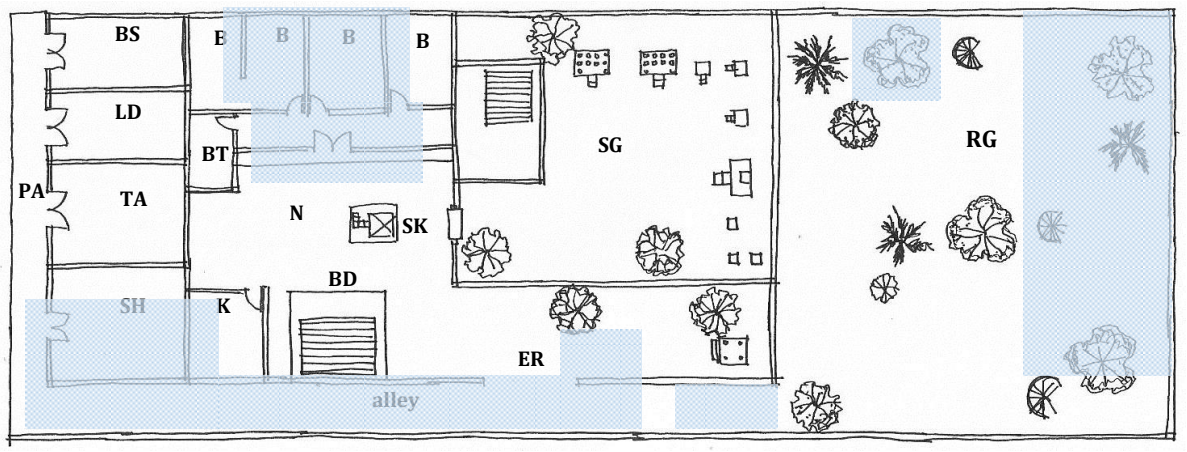


B Bedroom
BD Pavilion *(bale delod)*
BH Pavilion *(bale dauh*
BK Pavilion *(bale daja)*
BN Pavilion *(bale dangin)*
BT Bathroom/toilet
ER Entrance *(angkul-angkul)*
GR Granary *(lumbung)*
K Kitchen
MT Motorcycle parking area
N Inner house yard *(Natah)*
RG Rear garden *(teba)*
S Storage
SG Family shrine *(Sanggan Gede)*
SK Shrine *(Penunggun karang)*
SS Shrine *(Pelinggih Betara Surya)*
ST Small shop
V Veranda
VR Visitor reception room

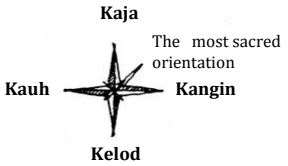
Ketut Gede Pariasa's dwelling



Existing House (2001)



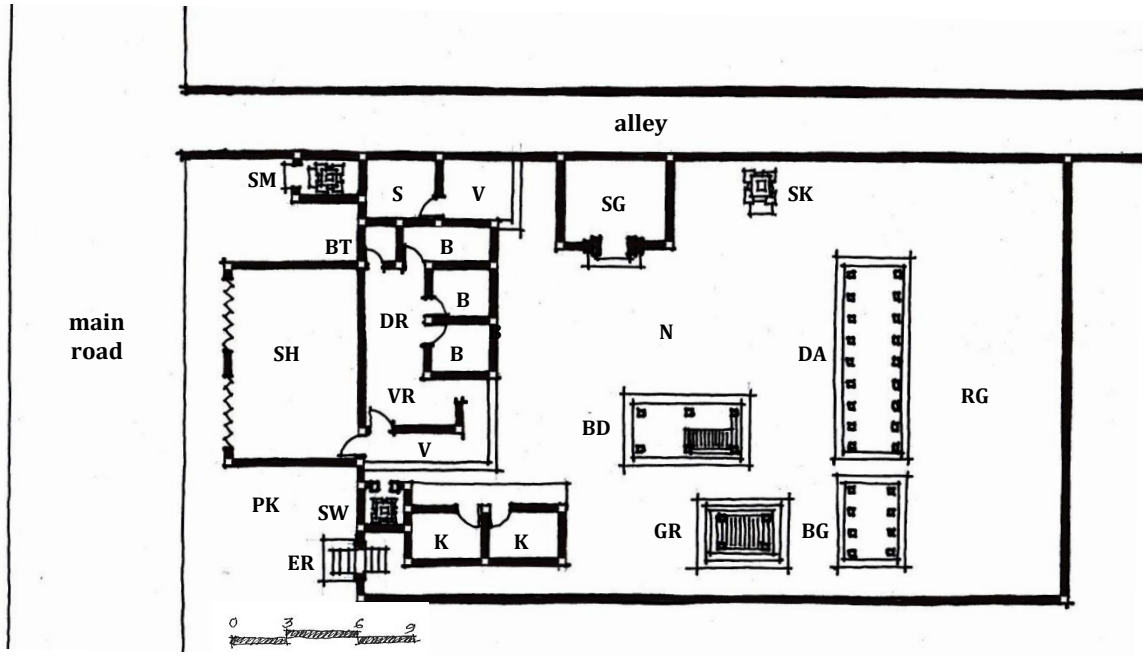
Plot of existing compounds



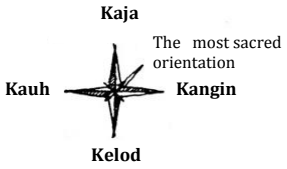
Transformed House (2011)

B Bedroom
BD Pavilion *(bale sumanggen)*
BK Pavilion *(baled daja)*
BS Rented space (barber shop)
BT Bathroom/toilet
ER Entrance
G Garage
K Kitchen
N Inner house yard *(Natah)*
LD Rented space (laundry)
PA Parking area (customers)
RG Rear garden *(teba)*
RR Rented space (accommodation)
SG Family shrines *(Sanggah Gede)*
SH Rented space (small shop)
SK Shrine *(Penunggun karang)*
TA Rented space (tailor)
VR Visitor reception room
WA Washing area

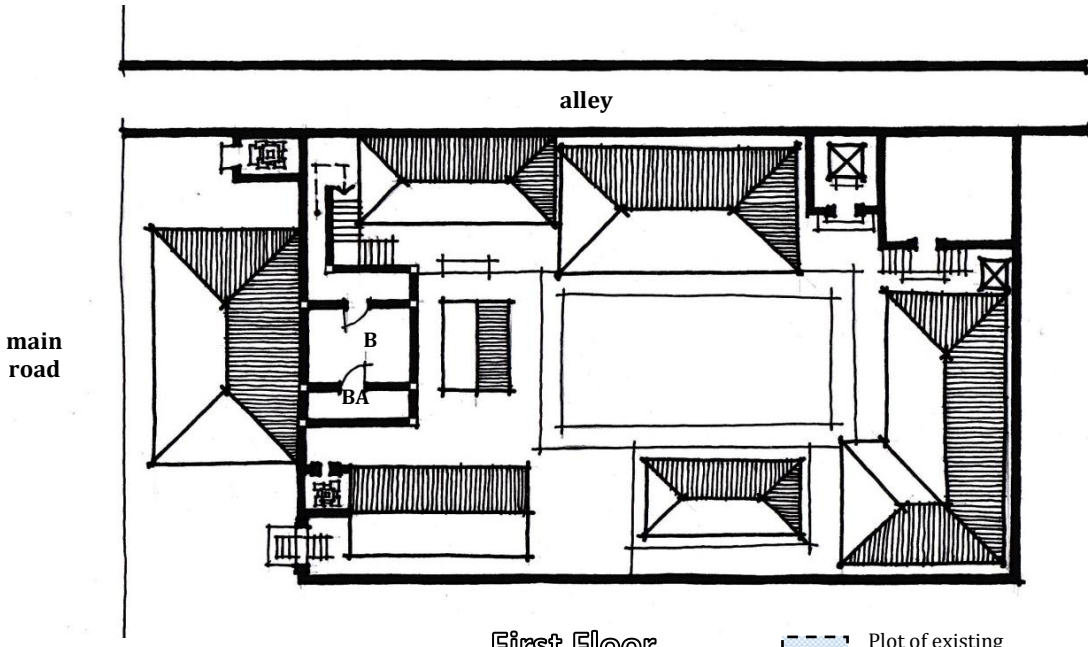
I Nyoman Susila's dwelling

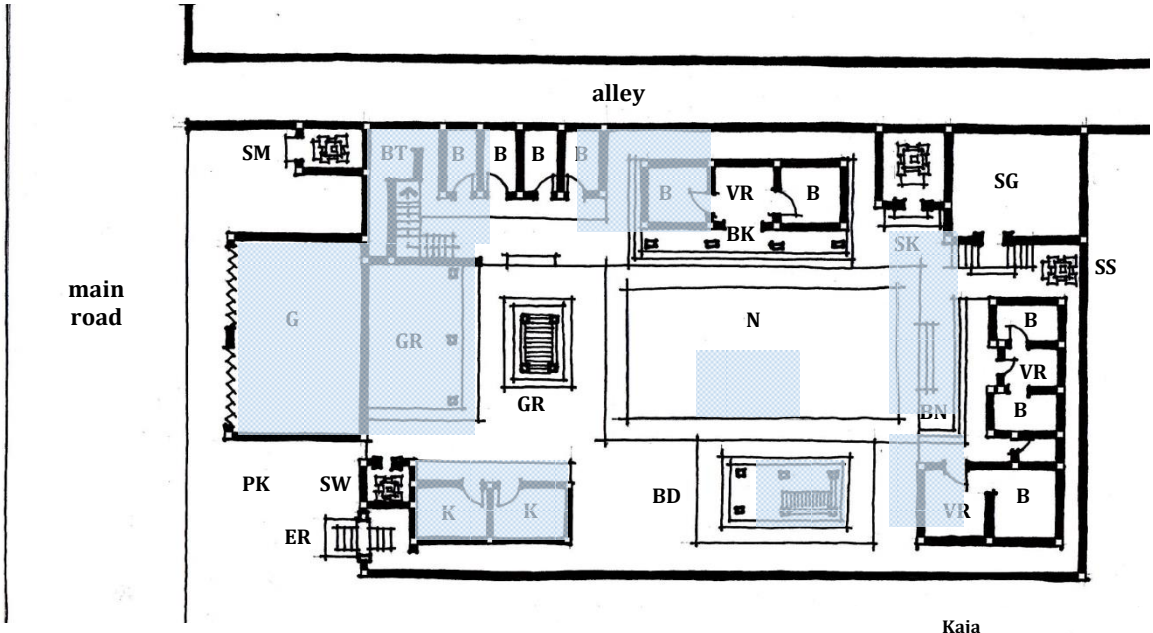


Existing House (2001)



B Bedroom
BD Pavilion *(bale delod)*
BG Pavilion *(bale gong)*
BT Bathroom/toilet
DA Pavilion *(bale lantang)*
DR Dining room
ER Entrance *(angkul-angkul)*
GR Granary *(lumbung)*
K Kitchen
N Inner house yard *(Natah)*
PK Parking area (visitor)
RG Rear garden *(teba)*
S Storage
SH Shop
SG Family shrine *(Sanggah Gede)*
SK Shrine *(penunggun karang)*
SM Shrine *(Pelinggih Melanting)*
SW Shrine *(Pelinggih Betara Wisnu)*
V Veranda
VR Visitor reception room

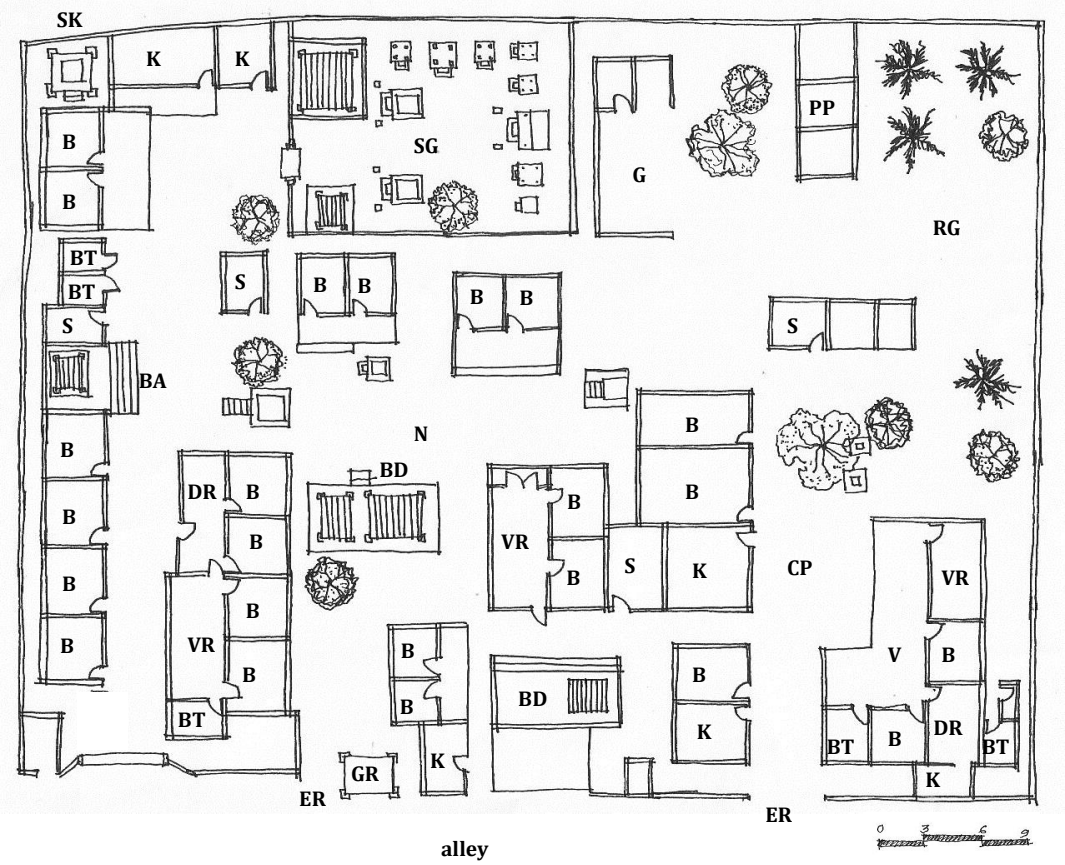




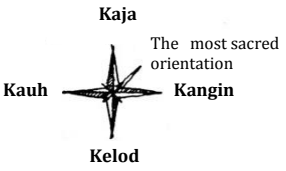
Transformed House (2011)

B Bedroom
BA Balcony
BD Pavilion *(bale delod)*
BN Pavilion *(bale dangin)*
BT Bathroom/toilet
BK Pavilion *(gedong simpen)*
ER Entrance *(angkul-angkul)*
G Garage
GR Granary *(lumbung)*
K Kitchen
N Inner house yard *(Natah)*
PK Parking area (visitor)
SG Family shrine *(Sanggah Gede)*
SK Shrine *(Penunggun karang)*
SM Shrine *(Pelinggih Melanting)*
SS Shrine *(Pelinggih Betara Surya)*
SW Shrine *(Pelinggih Betara Wisnu)*

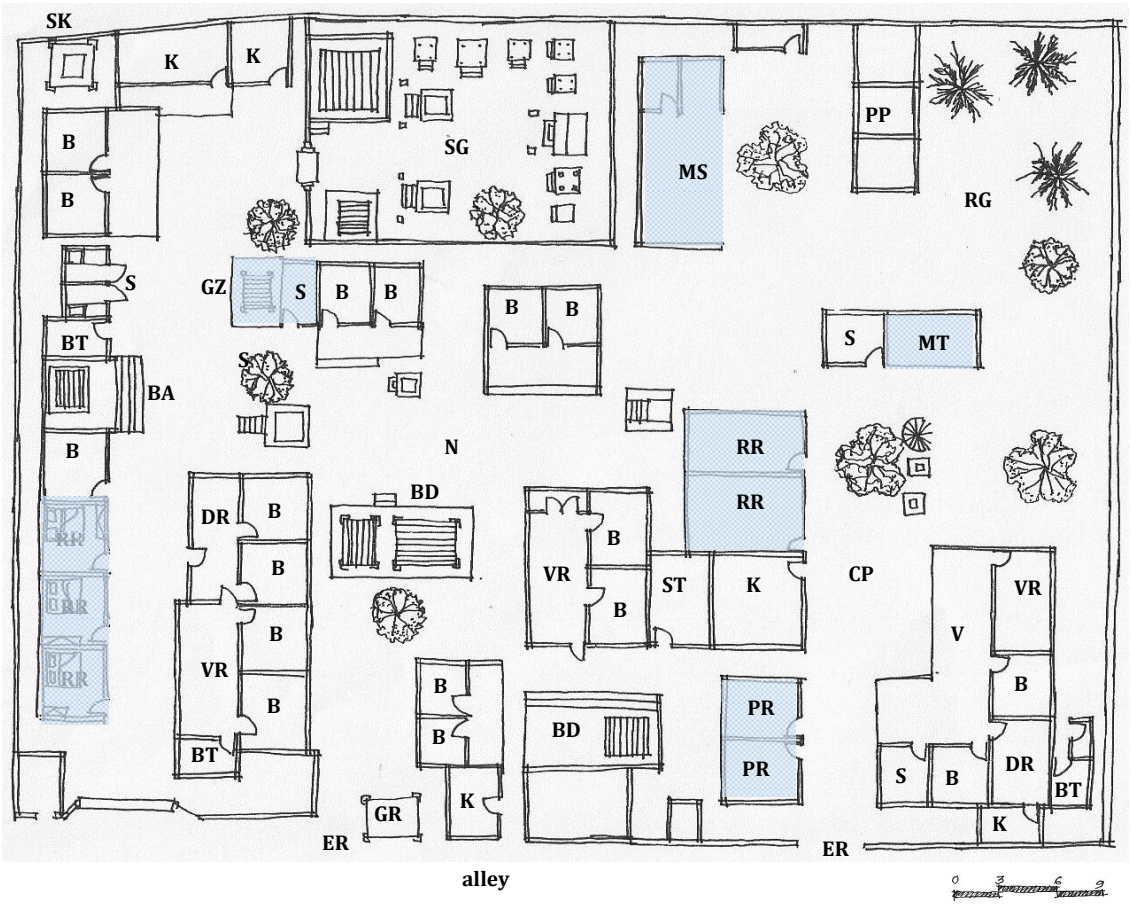
Made Riady's dwelling



Existing House (2001)



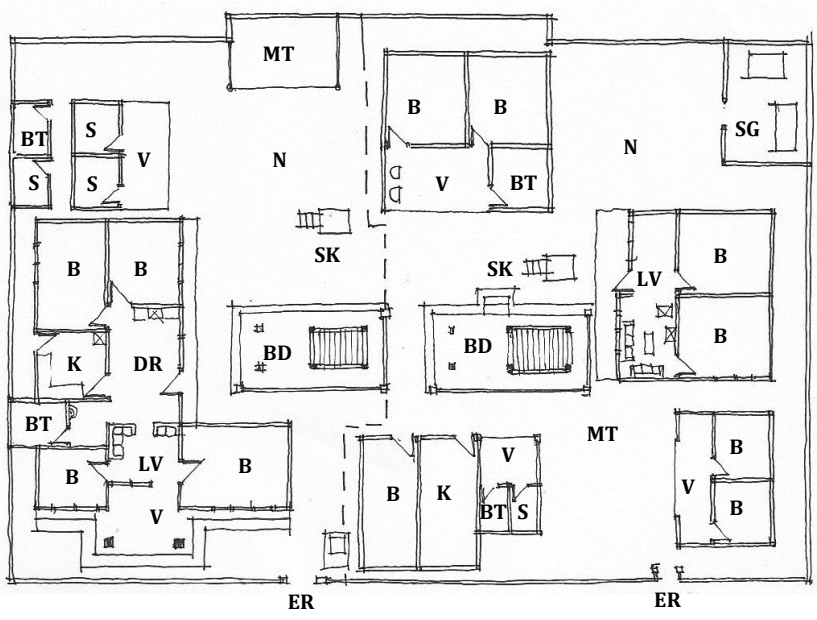
B Bedroom
BA Pavilion *(bale dauh)*
BD Pavilion *(bale sumanggeng)*
BT Bathroom/toilet
CP Carport
DR Dining room
EA Economic activities area (printing)
ER Entrance
G Garage
GR Granary *(lumbung)*
GZ Gazebo *(bale bengong)*
MT Motorcycle parking area
K Kitchen
N Inner house yard *(Natah)*
PP Pigpen
S Storage
SG Family shrine *(Sanggah Gede)*
SK Shrine *(Penunggun karang)*
VR Visitor reception room
WA Washing area



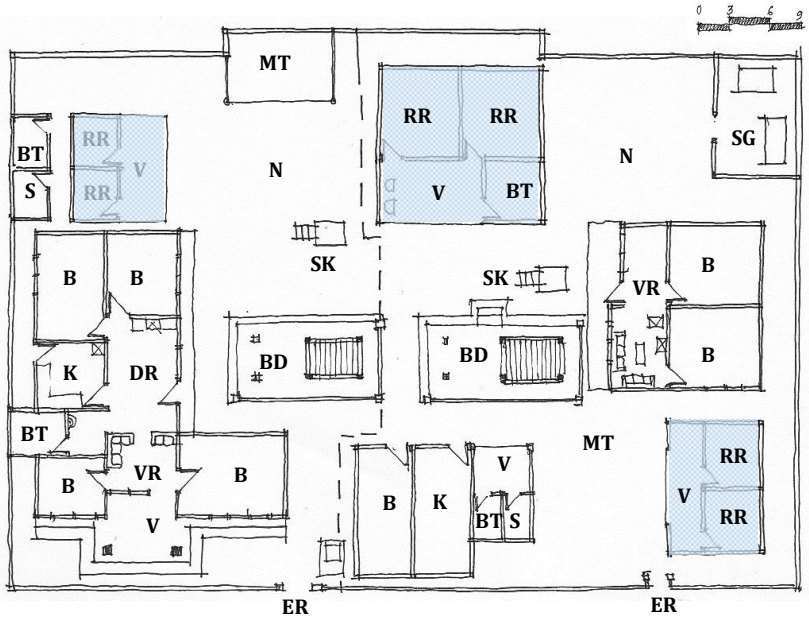
Transformed House (2011)

B Bedroom
BA Pavilion *(bale dauh)*
BD Pavilion *(bale delod)*
BT Bathroom/toilet
CP Carport
DR Dining room
ER Entrance
G Garage
GR Granary *(lumbung)*
GZ Gazebo *(bale bengong)*
K Kitchen
MT Motorcycle parking area
MS Rented space (motorcycle repair station)
N Inner house yard *(Natah)*
PP Pigpen
PR Rented space (printing)
RR Rented space (accommodation)
S Storage
SG Family shrine *(Sanggah Gede)*
SK Shrine *(Penunggun karang)*
VR Visitor reception room
WA Washing area

I Wayan Sandiasa's dwelling

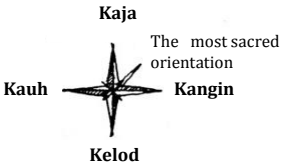


Existing House (2001)



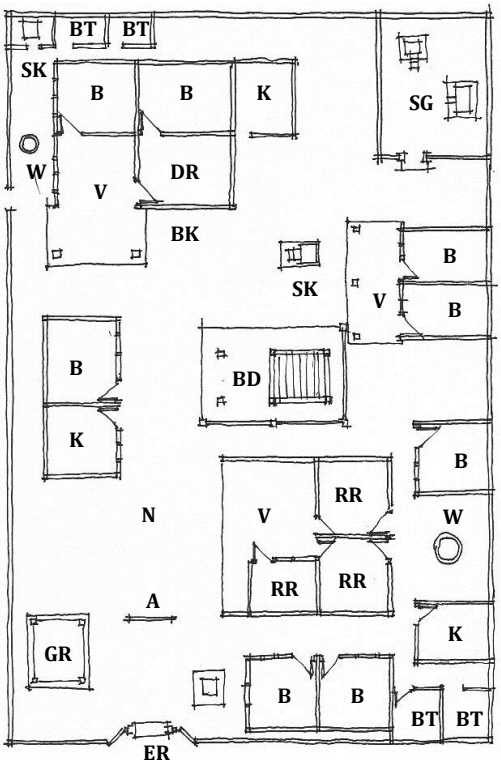
Transformed House (2011)

Changed the use of space



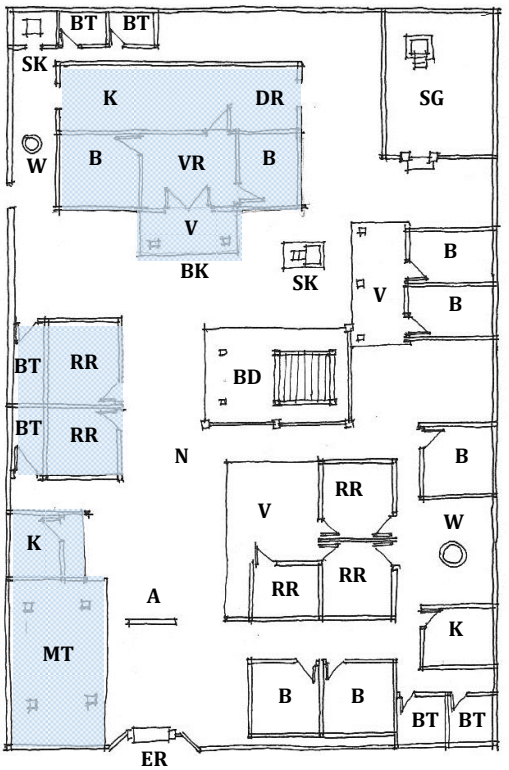
B	Bedroom	**G**	Garage	**S**	Storage
BD	Pavilion *(bale delod)*	**K**	Kitchen	**SG**	Family shrine *(Sanggah Gede)*
BT	Bathroom/toilet	**N**	Inner house yard *(Natah)*	**SK**	Shrine *(Penunggun karang)*
DR	Dining room	**MT**	Motorcycle parking area	**V**	Veranda
ER	Entrance	**RR**	Rented space (accommodation)	**VR**	Visitor reception room

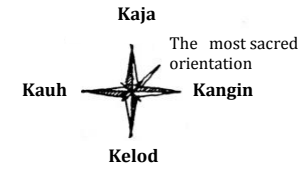
I Made Widana's dwelling



A Partitioned-wall *(aling-aling)*
B Bedroom
BD Pavilion *(bale delod)*
BK Pavilion *(bale daja)*
BT Bathroom/toilet
DR Dining room
ER Entrance *(angkul-angkul)*
GR Granary *(lumbung)*
K Kitchen
MT Motorcycle parking area
RR Rented space (accommodation)
SG Family shrines *(Sanggah Gede)*
SK Shrine *(penunggun karang)*
V Veranda
VR Visitor reception room
W Water well

Existing House (2001)

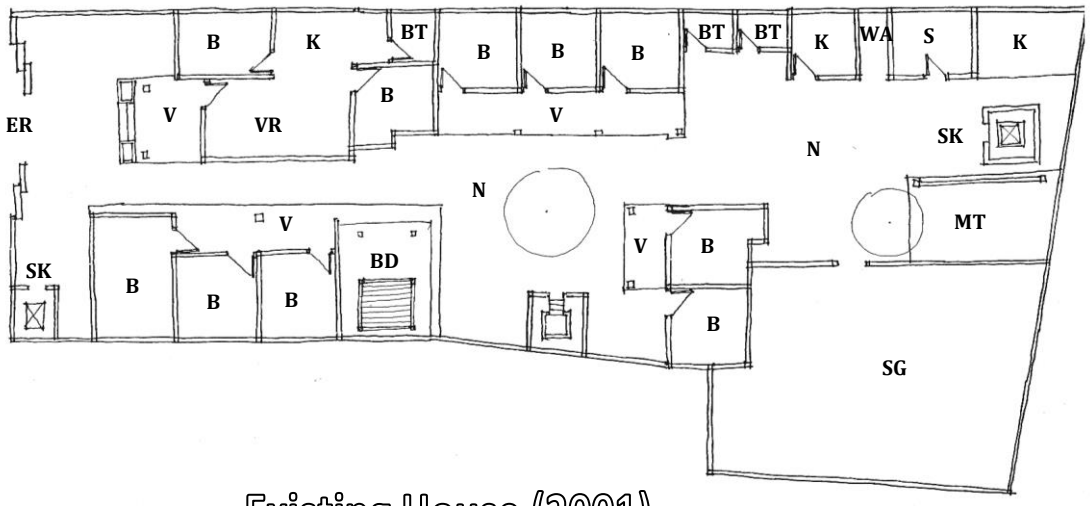




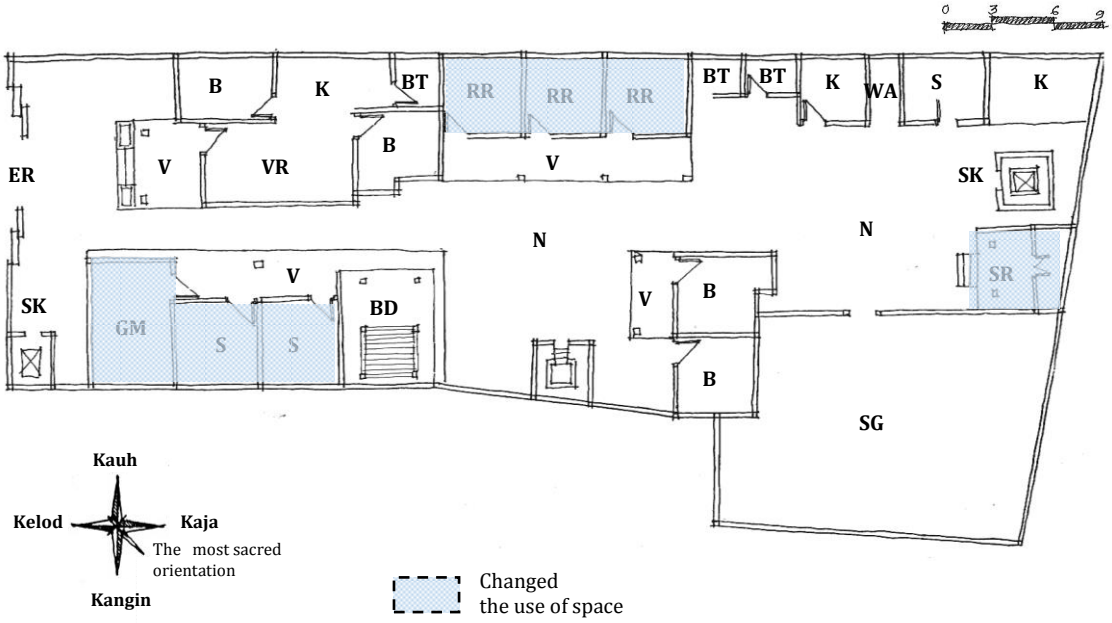
Changed the use of space and extended compounds

Transformed House (2011)

Ketut Pantyasa's dwelling



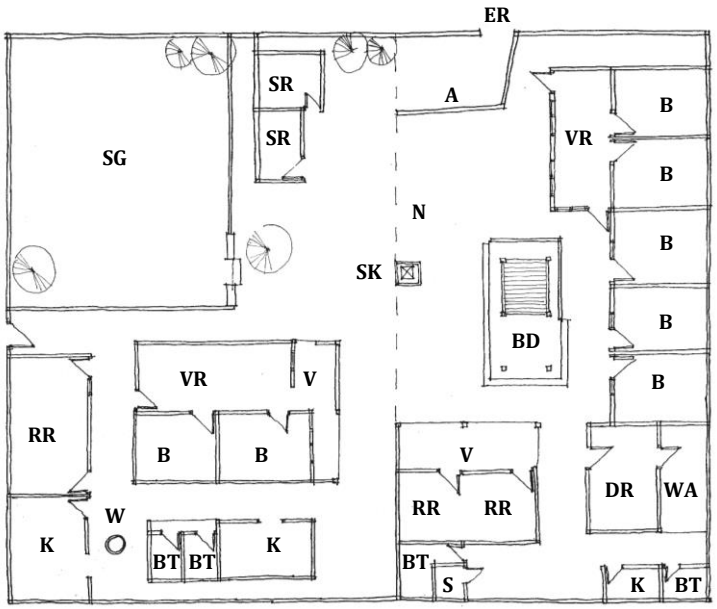
Existing House (2001)



Transformed House (2011)

B Bedroom
BD Pavilion *(bale delod)*
BT Bathroom/toilet
ER Entrance
GM Rented space (gymnastic room)
K Kitchen
N Inner house yard *(Natah)*
MT Motorcycle parking area
RR Rented space (accommodation)
S Storage
SG Family shrine *(Sanggah Gede)*
SK Shrine *(Penunggun karang)*
SR Storage (for property for ritual ceremonies)
V Veranda
VR Visitor reception room
WA Washing area

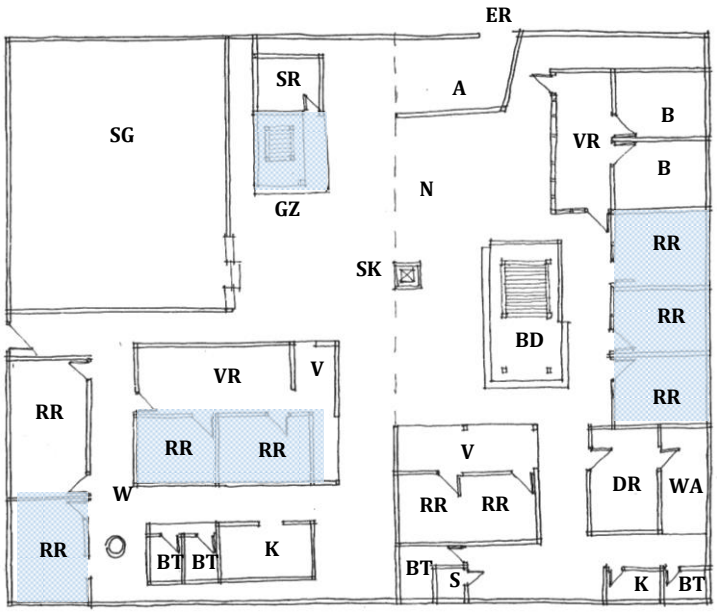
Gede Wirawan's dwelling



Changed the use of space

0 3 6 9

Existing House (2001)



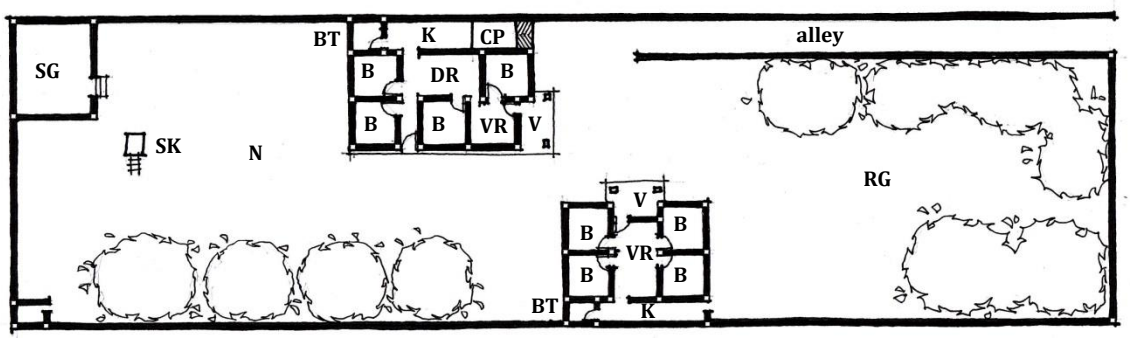
The most sacred orientation

Kangin
Kaja
Kelod
Kauh

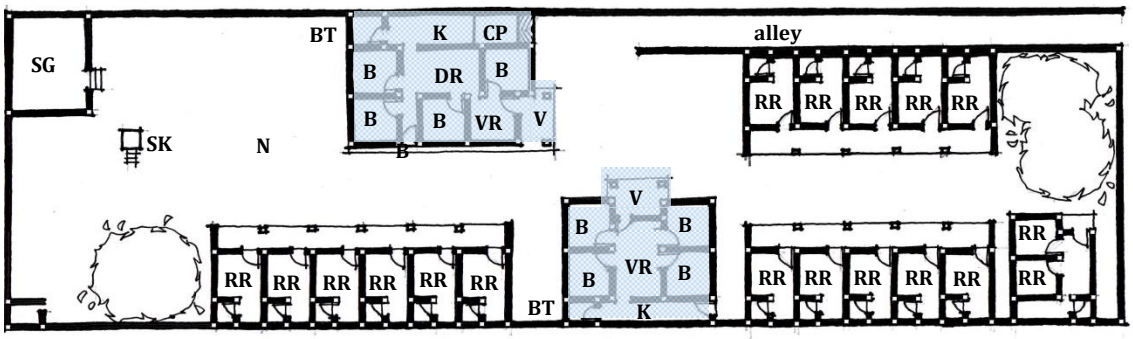
Transformed House (2011)

A Partitioned wall
B Bedroom
BD Pavilion *(bale delod)*
BT Bathroom/toilet
DR Dining room
ER Entrance
GZ Gazebo *(bale bengong)*
K Kitchen
N Inner house yard *(Natah*
RR Rented space (accommodation)
SG Family shrine *(Sanggah Gede)*
SK Shrine *(Penunggun karang)*
SR Storage (for items for ritual ceremonies)
V Veranda
VR Visitor reception room
W Water well
WA Washing area

I Made Karmaya's dwelling

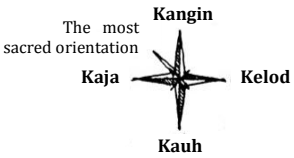


Existing House (2001)



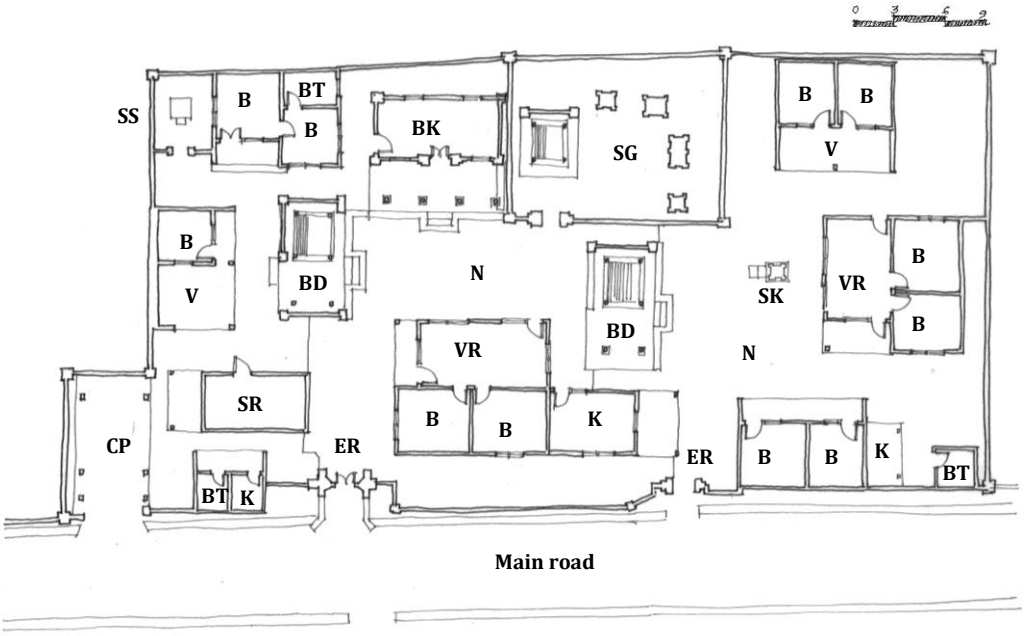
Plot of existing compounds

Transformed House (2011)



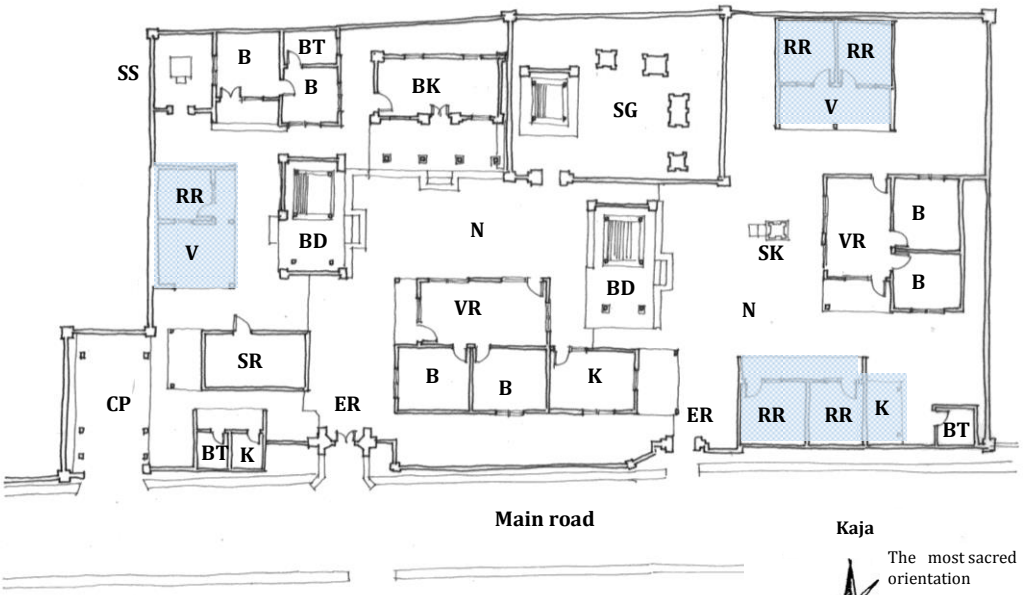
B Bedroom
BD Pavilion *(bale delod)*
BT Bathroom/toilet
CP Carport
DR Dining room
K Kitchen
N Inner house yard *(Natah)*
RG Rear garden *(teba)*
RR Rented space (accommodation
SG Family shrine *(Sanggah Gede)*
SK Shrine *(Penunggun karang)*
V Veranda
VR Visitor reception room

Putu Cidra's dwelling

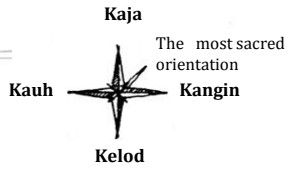


Existing House (2001)

Changed the use of space



Transformed House (2011)



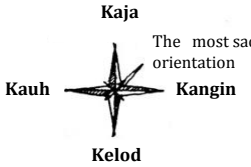
B Bedroom
BD Pavilion *(bale delod)*
BT Bathroom/toilet
CP Carport
DR Dining room
ER Entrance
K Kitchen
N Inner house yard *(Natah)*
RR Rented space (accommodation)
SG Family shrine *(Sanggah Gede)*
SK Shrine *(Penunggun karang)*
SR Storage (for items for ritual ceremonies)
SS Shrine *(Pelinggih Betara Surya)*
V Veranda
VR Visitor reception room

Made Parwana's dwelling

Existing House (2001)

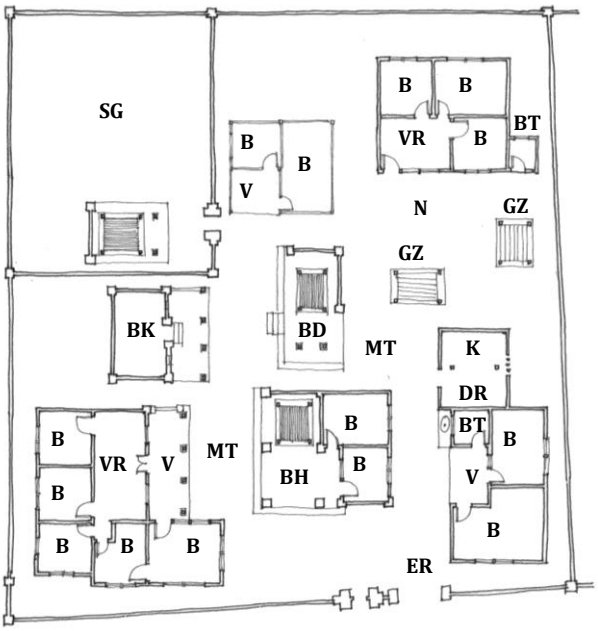
Changed
the use of space

Transformed House (2011)



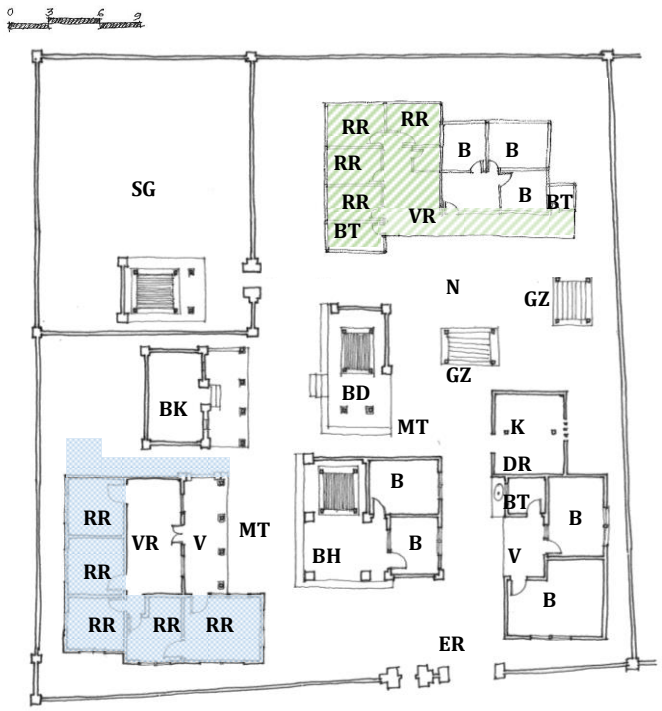
B Bedroom
BD Pavilion *(bale delod)*
BK Pavilion *(gedong simpen)*
BT Bathroom/toilet
CP Carport
DR Dining room
ER Entrance
K Kitchen
MT Motorcycle parking
N Inner house yard *(Natah)*
RR Rented space (accommodation)
S Storage
RC Rented space (rental office)
SG Family shrine *(Sanggah Gede)*
SH Rented space (small shop)
SK Shrine *(Penunggun karang*
SS Shrine *(Pelinggih Betara Surya)*
V Veranda
VR Visitor reception room

Wayan Maglug's dwelling



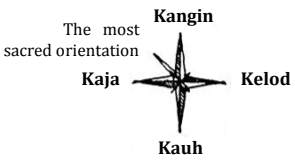
B Bedroom
BD Pavilion *(bale delod)*
BH Pavilion *(bale dauh)*
BK Pavilion *(gedong simpen)*
BT Bathroom and toilet
DR Dining room
ER Entrance *(angkul-angkul)*
GZ Gazebo *(bale bengong)*
K Kitchen
MT Motorcycle parking area
N Inner house yard *(Natah)*
RR Rented space (accommodation)
SG Family shrines *(Sanggah Gede)*
SK Shrine *(penunggun karang)*
V Veranda
VR Visitor reception room

Existing House (2001)



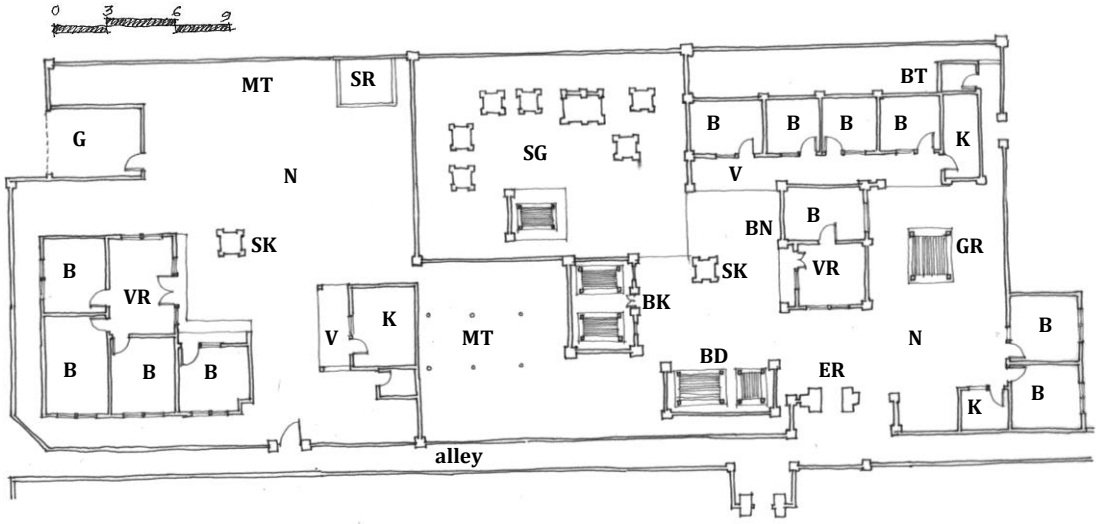
Changed the use of space

Additional floor



Transformed House (2011)

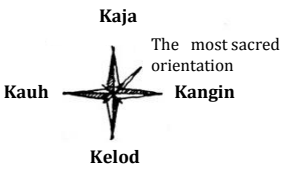
Putu Gede Kertha's dwelling



Existing House (2001)

Additional floor

Transformed House (2011)



B Bedroom
BD Pavilion *(bale delod)*
BK Pavilion *(gedong simpen)*
BN Pavilion *(bale dangin*
BT Bathroom/toilet
ER Entrance
GR Granary *(lumbung)*
K Kitchen
N Inner house yard *(Natah)*
MT Motorcycle parking area
RR Rented space (accommodation)
SG Family shrine *(Sanggah Gede)*
SK Shrine *(Penunggun karang)*
SR Storage (for items for ritual ceremonies)
ST Small shop
V Veranda
VR Visitor reception room